

Supplemental Specifications and Recurring Special Provisions

Adopted January 1, 2004



Illinois Department of Transportation

INTRODUCTION

This book contains a copy of SUPPLEMENTAL SPECIFICATIONS and frequently used RECURRING SPECIAL PROVISIONS.

The SUPPLEMENTAL SPECIFICATIONS included herein supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2002. The SUPPLEMENTAL SPECIFICATIONS are applicable to and included, by reference, in all contracts advertised and awarded by the Department.

The frequently used RECURRING SPECIAL PROVISIONS included herein may be included, by reference, in selected contracts advertised and awarded by the Department.

Bidding proposals issued by the Department may contain a "Check Sheet for Recurring Special Provisions" which specifies the RECURRING SPECIAL PROVISIONS applicable to and included in contracts by reference.

The units of measure used shall correspond to the units used in the contract.

INDEX FOR SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2004

This sheet contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

ERRATA Standard Specifications for Road and Bridge Construction
(Adopted 1-1-02) (Revised 1-1-04)

SUPPLEMENTAL SPECIFICATIONS

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RECURRING SPECIAL PROVISIONS

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LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

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State of Illinois
Department of Transportation

ERRATA
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

Adopted: January 1, 2002

Revised: January 1, 2004

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|----------|---|
| Page vi | Change "SECTION 501. BITUMINOUS TREATED EARTH SURFACE..." to "SECTION 501. REMOVAL OF EXISTING STRUCTURES..." |
| Page x | Change the heading " WIRE AND CABLE " to " LIGHTING, WIRE AND CABLE ". |
| Page x | Change the heading " CONTROLLER " to " LIGHTING CONTROLLER ". |
| Page xi | Change the heading " POLE AND TOWER " to " LIGHTING POLE AND TOWER ". |
| Page xi | Change "SECTION 830. METAL POLES..." to "SECTION 830. LIGHT POLES..." |
| Page xi | Change the heading " FOUNDATION AND BREAKAWAY DEVICES " to " LIGHTING FOUNDATION AND BREAKAWAY DEVICES ". |
| Page xi | Change the heading " SIGNAL MAINTENANCE " to " TRAFFIC SIGNAL MAINTENANCE ". |
| Page xi | Change the heading " CONTROLLERS " to " TRAFFIC SIGNAL CONTROLLERS ". |
| Page xii | Change the heading " CONTROL EQUIPMENT " to " TRAFFIC SIGNAL CONTROL EQUIPMENT ". |
| Page xii | Change the heading " WIREWAY AND CONDUIT SYSTEM " to " TRAFFIC SIGNAL WIREWAY AND CONDUIT SYSTEM ". |
| Page xii | Change the heading " WIRE AND CABLE " to " TRAFFIC SIGNAL WIRE AND CABLE ". |
| Page xii | Change the heading " POST AND FOUNDATION " to " TRAFFIC SIGNAL POST AND FOUNDATION ". |
| Page xii | Change the heading " SIGNAL HEAD " to " TRAFFIC SIGNAL HEAD ". |
| Page xii | Change the heading " DETECTION " to " TRAFFIC SIGNAL DETECTION ". |

Page xii	Change the heading "MISCELLANEOUS" to "TRAFFIC SIGNAL MISCELLANEOUS" .
Page xiii	Change the heading "REMOVAL AND RELOCATION" to "TRAFFIC SIGNAL REMOVAL AND RELOCATION" .
Page 12	Article 104.07(d). In the third line of the sixth paragraph change "(B-AC)" to "(B-A-C)".
Page 13	Article 104.07(d). In the third line of the ninth paragraph change "(B-AC)" to "(B-A-C)".
Page 30	Article 107.16. In the second sentence of the first paragraph delete "Legal Regulations and Responsibility to Public".
Page 34	Article 107.22(b). In the fifth line of the first paragraph change "Illinois Department of Conservation" to "Illinois Department of Natural Resources".
Page 35	Article 107.22(c). In the seventh line of the first paragraph change "Illinois Department of Conservation" to "Illinois Department of Natural Resources".
Page 35	Article 107.22(c)(2). In the first line of the second paragraph change "Department of Conservation" to "Department of Natural Resources".
Page 40	Article 107.30. In the third line of the third paragraph change "tp" to "to".
Page 46	Article 108.04. In the fourth line of the first paragraph change "40 days" to "ten days".
Page 71	Article 202.03. In the fourth line of the fifth paragraph change "sight" to "site".
Page 81	Article 205.04(a). In the first line of the second paragraph change "0.5 sq m" to "0.2 sq m".
Page 81	Article 205.04(a). In the last line of the fourth paragraph change "205.06" to "205.05".
Page 81	Article 205.04(b). In the last line of the first paragraph change "205.06" to "205.05".
Page 98	Article 250.07. Change the last CLASS - TYPE listing in the first column from "4 Native Grass 4, 6/" to "4 Native Grass 6/, 8/".
Page 110	Article 252.12. In the first line of the fourth paragraph change "250.08" to "250.09".
Page 110	Article 252.12. In the second line of the fifth paragraph change "250.08" to "250.09".

- Page 110 Article 252.13. In the second line of the third paragraph change "250.09" to "250.10".
- Page 130 Article 282.03. Delete the first three sentences of the first paragraph.
- Page 140 Article 301.05. In the second line of the first paragraph change "Type 8" to "Type B".
- Page 144 Article 302.08. In the first sentence of the second paragraph change "not than" to "not less than".
- Page 171 Article 312.31. In the seventh line of the second paragraph change "relative durability" to "minimum relative dynamic modulus of elasticity".
- Page 183 Article 352.18(a). Revise the first paragraph to read, "Per square meter (square yard) for PROCESSING SOIL-CEMENT BASE COURSE, of the thickness specified."
- Page 185 Article 353.07. Change "420.10(g)" to "420.10(f)".
- Page 185 Article 353.11. In the third line of the second paragraph change "(160 ft)" to "(16 ft)".
- Page 194 Article 355.11. In the fourth line of the first paragraph change "penalties" to "requirements".
- Page 246 Article 406.23. In the fifth and sixteenth lines of the fifth paragraph change "1102.01(a)(13)" to "1102.01(a)(9)".
- Page 257 Article 420.02(d). Change "1050" to "1050.01, 1050.02".
- Page 257 Article 420.02. Delete "(g) Preformed Elastomeric Compression Joint Seals for Concrete.....1053.01".
- Page 301 Article 442.10. In the first line of the second paragraph change "extend" to "extent".
- Page 302 Article 442.10. In the first sentence of the last paragraph change "Class A, Class B, or Class B (Hinge Jointed)" to "Class A or Class B".
- Page 321 Article 450.02(b). Add Article "1051.09" for Preformed Expansion Joint Filler.
- Page 338 Article 501.05. Revise the fifth paragraph to read "Removal of existing pipe culverts will be paid for at the contract unit price per meter (foot) for PIPE CULVERT REMOVAL, which price shall include any headwalls or aprons attached to the culvert."
- Page 338 Article 501.05. Revise the sixth paragraph to read "Removal of existing slope wall will be paid for at the contract unit price per square meter (square yard) for SLOPE WALL REMOVAL."

Page 355	Article 503.10(d). In the sixteenth line of the fifth paragraph change "block" to "black".
Page 363	Article 503.17(e)(1). Delete the last sentence of the first paragraph.
Page 370	Article 504.04(a). In the fourth line of the first paragraph change "594" and "841" to "600" and "900" respectively.
Page 380	Article 504.06(c)(6). In the second and sixth lines of the fifth paragraph change "4 °C (40 °F)" to "22 °C (40 °F)".
Page 395	Article 505.04(f)(2). Delete the last sentence of the ninth paragraph.
Page 395	Article 505.04(f)(2). Add the following paragraph after the ninth paragraph, "The fastening systems shall meet the following requirements:".
Page 404	Article 505.04(l)(5). In the fourth line of the first paragraph, change "(32 in.)" to "(1/32 in.)".
Page 406	Article 505.04(q)(1). Change subparagraph "(a)" and "(b)" to "a." and "b." respectively.
Page 407	Article 505.04(q)(2). In the fourth line of the third paragraph change "ant" to "and".
Page 409	Article 505.04(q)(5). In the fourth line of the sixth paragraph change "+20 mm" to "±20 mm".
Page 417	Article 505.08(h). In the eighth line of the third paragraph change "mm" to "1 mm".
Page 425	Article 506.04(d). In the first line of the first paragraph change "wither" to "either".
Page 426	Article 506.04(k). In the first and fourth lines of the first paragraph change "must" to "shall".
Page 455	Article 512.14. In the definitions at the top of the page revise the symbol "P" to "p".
Page 459	Article 512.18(l). In the second line of the first paragraph change "TEST PILES" to "TEST PILE".
Page 465	Article 540.08. In the fifth line of the fourth paragraph change "elects use" to "elects to use".
Page 484	Article 542.02(aa). Change "Bank" to "Band".
Page 485	Article 542.03. In the material list for Class D pipes, change the reference for Corrugated Polyethylene (PE) Pipe with a Smooth Interior from "Article 1040.23" to "Article 1040.22".

- Page 486 Article 542.03. In the first line of the seventh paragraph, change “Drain, and” to “Drain and”.
- Page 490 Article 542.03, Table IB (English). In the fifth column change the eight occurrences of “0.07” to “0.079”, the seven occurrences of “0.10” to “0.109” and the four occurrences of “0.13” to “0.138”.
- Page 492 Article 542.03, Table IC (English). In the third column change the seven occurrences of “0.10” to “0.105”, the two occurrences of “0.13” to “0.135” and the two occurrences of “0.16” to “0.164”.

PIPE CULVERTS (ENGLISH)												
TABLE – IIIB: PLASTIC PIPE PERMITTED FOR THE RESPECTIVE DIAMETERS OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE												
Nominal Diameter (in.)	Type 3 Fill Height: Greater than 10 ft and not Exceeding 15 ft					Type 4 Fill Height: Greater than 15 ft not Exceeding 20 ft						
	PVC	CPVC	PVCPW -794	PVCPW -304	PE	PEPW	PVC	CPVC	PVCPW -794	PVCPW -304		
10	X	*	NA	NA	X	NA	X	*	NA	NA		
12	X	X	X	X	X	NA	X	X	X	X		
15	X	X	X	X	NA	NA	X	X	X	X		
18	X	X	X	X	X	X	X	X	X	X		
21	X	X	X	X	NA	X	X	X	X	X		
24	X	X	X	X	X	X	X	X	X	X		
30	X	X	X	X	X	X	X	X	X	X		
36	X	X	X	X	X	X	X	X	X	X		

PIPE CULVERTS (ENGLISH)											
TABLE - IIIC: PLASTIC PIPE PERMITTED FOR THE RESPECTIVE DIAMETERS OF PIPE AND FILL HEIGHTS OVER THE TOP OF THE PIPE											
Nominal Diameter (in.)	Type 5 Fill Height: Greater Than 20 ft Not Exceeding 25 ft			Type 6 Fill Height: Greater than 25 ft Not Exceeding 30 ft			Type 7 Fill Height: Greater than 30 ft Not Exceeding 35 ft				
	PVC	CPVC	PVCPW -794	PVCPW -304	PVC	CPVC	PVCPW -794	PVCPW -304	PVC		
10	X	*	NA	NA	X	*	NA	NA	X		
12	X	X	X	X	X	X	X	X	X		
15	X	X	X	X	X				X		
18	X	X	X	X	X				X		
21	X	X	X	X	X				X		
24	X	X	X	X	X				X		
30	X				X				X		
36	X				X				X		

Page 505 Article 542.04(h). Add the following paragraphs after the first paragraph:

“For PVC and PE pipe culverts with diameters 600 mm (24 in.) or smaller, a mandrel drag shall be used for deflection testing. For PVC and PE pipe culverts with diameters over 600 mm (24 in.), deflection measurements other than by a mandrel shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have nine various sized fins or legs of appropriate dimension for various diameter of pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter, where the base inside diameter is:

- (1) For all PVC pipe and Profile Wall PE pipe: as defined using ASTM D 3034 methodology.
- (2) For all other PE pipe: the average inside diameter based on the minimum and maximum tolerances specified in the corresponding ASTM or AASHTO material specifications.

If the pipe is found to have a deflection greater than that specified, that pipe section shall be removed, replaced and retested.”

Page 508 Article 542.04(h). Delete the first four paragraphs appearing on the page.

Page 567 Article 602.04. Delete the second sentence of the third paragraph.

Page 579 Article 606.14. In the third line of the second paragraph change “mm (4 in.)” to “MM (4 INCH)”.

Page 582 Article 609.07. In the third line of the first paragraph change “TYPE C or D INLET BOX STANDARD 609006” to “TYPE B, C or D INLET BOX STANDARD 609006”.

Page 599 Articles 638.02(a) and 638.02(d). Change “1086” to “1085”.

- Page 635 Article 701.03. Revise the first paragraph to read: **"Equipment.** Equipment shall be according to the following Articles of Section 1100 – Equipment:".
- Page 650 Article 701.06(g). Delete the second paragraph.
- Page 652 Article 701.08(a). In the third line of the first paragraph change "TARAFFIC" to "TRAFFIC".
- Page 652 Article 701.08(a). In the seventh line of the first paragraph change "401411" to "701411".
- Page 652 Article 701.08(a). In the ninth line of the first paragraph change "AT THE LOCATION SPECIFIED" to ", at the location specified".
- Page 655 Article 702.03(b). Delete the last sentence of the second paragraph.
- Page 661 Article 703.04. In the eighth line of the first paragraph change "four degree" to " 45 degree".
- Page 693 Article 780.10. Revise the second sentence of the ninth paragraph to read "The bond shall be executed prior to acceptance and final payment of the non-pavement marking items and shall be in full force and effect until final performance inspection and performance acceptance of the epoxy, thermoplastic, preformed thermoplastic, and preformed plastic pavement markings."
- Page 693 Article 780.10. In the twelfth line of the ninth paragraph change "thermoplastic" to "pavement marking".
- Page 696 Article 781.03(a). In the last sentence of the second paragraph change "ASTM C 881, Type IV, Grade 2 or 3" to "AASHTO M 237".
- Page 701 Article 801.03. In the second listing of Article 801.03, revise "801.03" to "801.05".
- Page 715 Article 806.03. In the last sentence of the first paragraph change "the top of the grounding electrode" to "100 mm (4 in.) below the exothermic connection".
- Page 728 Change the heading **"WIRE AND CABLE"** to **"LIGHTING, WIRE AND CABLE"**.
- Page 728 Article 816.03(a). Revise the first sentence of the first paragraph to read, "The unit duct shall be installed according to the NEC, directly from the reels on which the unit duct was shipped, in continuous spans from terminal to terminal without splicing the duct or cables."
- Page 730 Article 817.03. Revise the third sentence of the sixth paragraph to read, "The cable shall be installed in continuous spans between terminal points and splicing will only be permitted in pole handholes or junction boxes on bridge structures above grade."

- Page 734 Article 821.07. Revise the third paragraph to read, "The mounting shall provide the correct position of the luminaire as recommended by the manufacturer and shall be able to withstand assigned loading according to AASHTO. The sign lighting installation shall include all aluminum conduit, fittings, attachment hardware, cable and a disconnect switch with a lockable exterior handle mounted within reach from the walkway".
- Page 735 Change the heading "**CONTROLLER**" to "**LIGHTING CONTROLLER**".
- Page 735 Article 825.01. Revise the first sentence of the first paragraph to read "This work shall consist of furnishing and installing an electrical control cabinet with control device(s), distribution equipment, foundation, grounding and wiring for control of roadway lighting."
- Page 738 Change the heading "**POLE AND TOWER**" to "**LIGHTING POLE AND TOWER**".
- Page 738 Change "**SECTION 830. METAL POLES**" to "**SECTION 830. LIGHT POLES**".
- Page 741 Change the heading "**FOUNDATION AND BREAKAWAY DEVICES**" to "**LIGHTING FOUNDATION AND BREAKAWAY DEVICES**".
- Page 745 Article 837.03(b). In the fourth line of the first paragraph change "503.07(a)" to "503.07".
- Page 754 Change the heading "**SIGNAL MAINTENANCE**" to "**TRAFFIC SIGNAL MAINTANENCE**".
- Page 756 Change the heading "**CONTROLLERS**" to "**TRAFFIC SIGNAL CONTROLLERS**".
- Page 758 Change the heading "**CONTROL EQUIPMENT**" to "**TRAFFIC SIGNAL CONTROL EQUIPMENT**".
- Page 761 Change the heading "**WIREWAY AND CONDUIT SYSTEM**" to "**TRAFFIC SIGNAL WIREWAY AND CONDUIT SYSTEM**".
- Page 762 Change the heading "**WIRE AND CABLE**" to "**TRAFFIC SIGNAL WIRE AND CABLE**".
- Page 770 Change the heading "**POST AND FOUNDATION**" to "**TRAFFIC SIGNAL POST AND FOUNDATION**".
- Page 772 Article 878.02(a). Change "1087.01(b)" to "1087.02".
- Page 773 Change the heading "**SIGNAL HEAD**" to "**TRAFFIC SIGNAL HEAD**".
- Page 774 Article 880.03. In the fourth line of the second paragraph change "optic all" to "optically".

- Page 776 Change the heading “**DETECTION**” to “**TRAFFIC SIGNAL DETECTION**”.
- Page 786 Article 1001.06. Delete the second paragraph.
- Page 798 Article 1004.01(c). In the fifth line of the second table, Coarse Aggregate Gradations (English), delete “8±4”, the percent of CA 1 passing of the No. 200 sieve.
- Page 798 Article 1004.01(c). In the sixth line of the second table, Coarse Aggregate Gradations (English), add “8±4” for the percent of CA 2 passing the No. 200 sieve.
- Page 799 Article 1004.01(c). In notes 4/, 5/, and 6/, replace the four occurrences of “□” with “±”.
- Page 814 Article 1006.04(b). In the third line of the first paragraph change “A 769M” to “A 709M” and “A 769” to “A 709”.
- Page 815 Article 1006.09. Delete the paragraph after the table.
- Page 820 Article 1006.25. In the fourth line of the second paragraph change “toinstallation” to “to installation”.
- Page 822 Article 1006.27(b). In the first line of the second paragraph change “ASTM F 669” to “ASTM F 1043”.
- Page 847 Article 1009.05. Delete the last sentence of the first paragraph.
- Page 847 Article 1009.05(a). In the second line of the first paragraph, change “MP 1” to “M 320”.
- Page 847 Article 1009.05(b). In the second line of the first paragraph, change “MP 1” to “M 320”.
- Page 854 Article 1009.08. Add the following after the table:
“The different grades are, in general, used for the following:
- | | |
|----------|---|
| RC-70 | – For prime coats. |
| RC-250 | – For road mix surfaces, open-graded aggregate type. |
| RC-800 | – For machine mix and traveling plant mix surfaces open-graded aggregate type, for surface treatment and seal coat. |
| RC- 3000 | – For machine mix surfaces open graded aggregate type, for surface treatment and seal coat.” |
- Page 872 Article 1020.06. Revise the second paragraph to read, “When fly ash, ground granulated blast furnace slag, high-reactivity metakaolin, or microsilica are used as part of the cement in a concrete mix, the water/cement ratio will be based on the total cementitious material contained in the mixture.”

- Page 876 Article 1020.11(c). Revise the last sentence of the seventh paragraph to read "The testing shall be conducted according to the Bureau of Materials and Physical Research's Policy Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests"."
- Page 877 Article 1020.11(c). Revise the second sentence of the ninth paragraph to read "The Contractor shall furnish the labor, equipment and material required to perform the testing according to the Bureau of Materials and Physical Research's Policy Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests", with the cost being included in the unit bid prices for the various items of Portland Cement Concrete involved."
- Page 887 Article 1020.13(d)(4). Revise the second sentence of the first paragraph to read, "On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound meeting the requirements of Article 1022.01 will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer meeting the requirements of Article 1101.09(b)."
- Page 905 Article 1050.02. In the second line of the first paragraph change "ASTM D 3405" to "ASTM D 6690".
- Page 932 Article 1067.01(a)(1). Revise the first paragraph to read, "The lamp socket shall be mogul type, glazed porcelain, one piece rolled threads with stationary socket lead connectors that will not move during lamp insertion and removal. It shall be provided with a grip or suitable device to hold the lamp against vibration. The rating of the socket shall exceed the lamp starting voltage, or starting pulse voltage rating."
- Page 933 Article 1067.01(a)(5)a. Delete the last two sentences of the sixth paragraph.
- Page 934 Article 1067.01(a)(5)b. Revise the fifth sentence of the third paragraph to read, "Proper ignition shall be provided over a range of -15 percent to +5 percent of rated voltage."
- Page 938 Article 1067.01(c)(1)a. In the first line of the second paragraph change "60 to 75 mm (2 3/8 to 3 in.)" to "50 to 60 mm (2 to 2 3/8 in.)".
- Page 945 Article 1067.01(f)(2)e. At the end of the first sentence of the first paragraph change "maximum voltage of 3,300 volts." to "rated voltage of 600 V."
- Page 954 Article 1068.01(e)(2)h. In the third line of the first paragraph change "350" to "377", "520" to "560" in the fourth line and "illumination" to "illumination" in the fifth line.
- Page 960 Article 1069.01(b)(2)d. In the eleventh line of the first paragraph change "anit-sieze" to "anti-seize".

- Page 964 Article 1069.01(c)(1). In the fourth line of the second paragraph change "10" to "11".
- Page 967 Article 1069.01(c)(2)c.2. Revise the first sentence of the second paragraph to read "The davit arm shall have a 90 mm (3 1/2 in.) minimum inside diameter at the slip joint."
- Page 967 Article 1069.01(c)(2)c.2. In the fourth line of the second paragraph change "50 mm (2 in.)" to "60 mm (2 3/8 in.)".
- Page 969 Article 1069.01(c)(3)b.2. In the second line of the second paragraph revise "50 mm (2 in.)" to "60 mm (2 3/8 in.)".
- Page 972 Article 1069.01(e)(4). Revise the second sentence of the first paragraph to read, "Poles shall have a single piece shaft with a 250 mm (10 in.) minimum outside bottom diameter at ground line, tapering to a 130 mm (5 in.) minimum outside top diameter."
- Page 978 Article 1069.04(b). In the first line of the eighth paragraph change "door" to "pocket door".
- Page 981 Article 1069.04(d)(1). In the fourth line of the second paragraph change "Feferal" to "Federal".
- Page 981 Article 1069.04(d)(3). In the first line of the first paragraph change "Towrs" to "Towers".
- Page 1020 Article 1079.02. Change second subparagraph "(b)" to "(c)".
- Page 1048 Article 1086.01(a)(7). Add the following to the end of the first paragraph, "Where installed in a heavy salt spray environment, the enclosure shall be stainless steel."
- Page 1058 Article 1090.03. In the first sentence of the sixth paragraph, change "ASTM 276" to "ASTM A 276".
- Page 1094 Article 1095.05(k). Delete the second sentence of the fifth paragraph.
- Page 1095 Article 1095.06. In the fourth line of the third paragraph change " R_1 " to " R_L ".
- Page 1152 Change "DETECOR LOOP" to "DETECTOR LOOP".
- Page 1160 In the Index of Pay Items, change the following referenced page number: Sand Backfill from "533" to "553".
- Page 1162 In the Index of Pay Items, change the following referenced page number: Thermoplastic Pavement Marking from "639" to "693".
- Page 1162 In the Index of Pay Items, change the pay item "TREE TRUCK PROTECTION" to "TREE TRUNK PROTECTION".

- Page 1165 In the subject Index change the following referenced page numbers:
 Aboriginal Records and Antiquities from "26" to "33".
 Backfill, for pipe drains from "657" to "561".
 Backfill, for pipe underdrains from "658" to "561".
 Backfill, for sight screens from "600, 604" to "601, 605".
 Backfill, for underground storage tanks from "616" to "626".
- Page 1166 In the subject Index change the following referenced page numbers:
 Bolts, anchor from "368" to "356".
 Bolts, high strength steel from "422" to "393".
 Bolts, turned and ribbed from "421" to "393".
 Cable, road guard from "712" to "595".
 Chemical Adhesive from "1053" to "899".
 Concrete, collars from "595" to "512".
 Concrete, Materials, haul time from "874" to "880".
 Controller, master from "996" to "757".
 Curb, bituminous shoulder from "727" to "606".
 Curb, concrete shoulder from "729" to "607".
- Page 1167 In the subject Index change the following referenced page numbers:
 Ditch, paved, removal from "303" to "283".
 Elastic Joint Sealer from "651" to "555".
 Fence, chain link from "610" to "608".
 Fiber Optic Cable from "1187" to "764".
 Fiberglass Fabric Repair System from "335" to "308".
 Fire Hydrant, moving from "632" to "538".
 Flaggers from "776" to "638".
 Foundations, concrete, for sign structures from "818" to "682".
 Gates, sluice from "688" to "580".
 Grout, epoxy, materials from "897" to "898".
 Guardrail, temporary from "801" to "665".
- Page 1168 In the subject Index change the following referenced page number:
 Mulch from "96" to "104".
- Page 1169 In the subject Index change the following referenced page numbers:
 Patching, class A, B, C & D from "228" to "288".
 Pavement Marking from "823" to "687".
 Pole, metal light from "971" to "738".
- Page 1170 In the subject Index change the following referenced page numbers:
 Reinforcement Bars from "482" to "434".
 Rumble Strips, temporary from "791" to "653".
 Screen, chain link fence sight from "722" to "602".
 Screen, glare from "718" to "599".

- Page 1171 In the subject Index change the following referenced page numbers:
Signs, construction from "1221" to "1042".
Signs, maintenance of from "1225" to "1045".
Slope Wall from "494" to 442".
Sodium Chloride, Material from "1012" to "860".
Terminals, traffic barrier from "702" to "589".
- Page 1172 In the subject Index change the following referenced page numbers:
Trench, for electrical work from "860" to "726".
Vaults, valve from "665" to "566".
Waiver of Legal Rights from "343" to "43".
Waterproofing, railway structures from "634" to "539".

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 101. DEFINITION OF TERMS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

101.28 Plans. Revise this Article to read:

“101.28 Plans. The contract drawings, or exact reproductions thereof, that show the location, character, dimensions and details of the work to be done. Contract drawings include, but are not limited to, the approved plans, profiles, typical cross sections, detail drawings, working drawings, supplemental drawings, and Highway Standards.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 105. CONTROL OF WORK

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

105.05 Coordination of the Contract Documents. Revise this Article to read:

“105.05 Coordination of the Contract Documents. The documents included in the contract are intended to be complementary and to describe a complete work. If the Department determines a conflict exists between the contract documents, the following hierarchy will be applied and the Contractor shall then complete the work according to the interpretation made by the Department.

Hierarchy of the Contract Documents		
Special Provisions	Hold over:	Plans, Recurring Special Provisions, Supplemental Specifications, and Standard Specifications
Plans ^{1/, 2/, 3/}	Hold over:	Recurring Special Provisions, Supplemental Specifications, and Standard Specifications
Recurring Special Provisions	Hold over:	Supplemental Specifications, and Standard Specifications
Supplemental Specifications	Hold over:	Standard Specifications

- 1/ Detail plans hold over Highway Standards.
- 2/ Calculated dimensions hold over scaled dimensions.
- 3/ The Highway Standards indicated by the revision number listed in the Index of Highway Standards on the plans shall hold over Highway Standards listed anywhere else.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 205. EMBANKMENT

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

205.03 Preparation of Existing Ground Surface. Revise the heading of subparagraph (a) of this Article to read:

 “(a) Flexible Pavement (Aggregate Surface, Bituminous Surface Treatment Over Aggregate Base).”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 251. MULCH

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

251.02 Materials. Add the following subparagraph to this Article:

“(g) Coconut Fiber 1081.10(f)”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 440. REMOVAL OF EXISTING PAVEMENT AND APPURTENANCES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

440.02 General. Revise the second paragraph of this Article to read:

“The thickness of the existing pavement structure to be removed, including overlays and other appurtenances, will be shown on the plans.”

440.07 Method of Measurement. Add the following subparagraph to this Article:

“(c) Adjustment of Quantities. Pavement removal will be adjusted if the thickness varies more than 15 percent from that shown on the plans. The quantity will be either increased or decreased according to the following table.

% change of thickness	% change of quantity
0 to less than 15	0
15 to less than 20	10
20 to less than 30	15
30 and greater	20

When an adjustment is made for variations in pavement thickness a resulting adjustment will also be made in the earthwork quantities when applicable.

No adjustment will be made for variations in the amount of reinforcement.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 442. PAVEMENT PATCHING

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

442.11 Basis of Payment. Revise the eighth paragraph of this Article to read:

“Pavement tie bars for Class A and Class B patches will be paid for at the contract unit price per each for TIE BARS of the diameter specified.”

Revise the tenth paragraph of this Article to read:

“Mandatory saw cuts for Class A and Class B patches will be paid for at the contract unit price per meter (foot) for SAW CUTS.”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 449. REMOVAL AND REPLACEMENT OF PREFORMED
ELASTOMERIC COMPRESSION JOINT SEAL

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

449.04 General. Revise this Article to read:

“449.04 General. The existing joint shall be reshaped to the dimensions shown on the plans. The edges shall be beveled by either a cutting or grinding device attached to the saw blade following the sawing operation. When unsatisfactory results are being obtained, the Contractor shall, at the direction of the Engineer, modify or change the method of producing bevels.

The joint shall be thoroughly cleaned prior to sealing. When the joint is free of foreign material and dry, the preformed elastomeric joint seal shall be installed by an approved machine method so that no twisting, rolling or misalignment with the opposite top edge occurs. The joint shall be sealed across the full width of the entire pavement with one piece of seal material. The seal shall be secured in place with a lubricant adhesive applied to both sides of the seal or both faces of the concrete. Any adhesive on the top of the seal shall be removed. The seal shall be installed in a compressed condition below the bottom of the beveled edge and not more than 8 mm (5/16 in.) below the surface of the pavement.

The method of installation shall be such that the joint sealer material will not be stretched more than five percent nor compressed more than two percent of the minimum theoretical dimension. The method of installation shall be checked for stretching and compression by pre-marking the length and width of the seal prior to installation. If the measurements demonstrate that stretching in excess of five percent or compression in excess of two percent is occurring, the installation method shall be modified to meet the requirements. Once sealing operations have started, one joint per every twenty-five shall be checked for stretch and compression. If an unsatisfactory condition is found, that seal and the seals on either side shall be removed until the condition disappears and the affected joints shall be replaced in a satisfactory manner at the expense of the Contractor.”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 501. REMOVAL OF EXISTING STRUCTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

501.04 Method of Measurement. Revise the fourth paragraph of this Article to read:

“When paid for as a separate item, removal of existing bridge rail will be measured in place in meters (feet). The length measured will be the overall length along the top longitudinal rail element through all posts and gaps.”

501.05 Basis of Payment. Revise the seventh paragraph of this Article to read:

“When a pay item is provided in the contract, removal of existing bridge rail will be paid for at the contract unit price per meter (foot) for BRIDGE RAIL REMOVAL.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 503. CONCRETE STRUCTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

503.06 Forms. Revise the fourth sentence of the eleventh paragraph of this Article to read:

“Forms shall not be removed from the bottom of slabs, beams, floors, pier caps, pile bent abutments or other flexural members until a flexural strength of 4500 kPa (650 psi) has been obtained and also until at least seven days have elapsed from the time of placement of concrete is completed.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 505. STEEL STRUCTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

505.04 Fabrication. Add the following to the third paragraph of Article 505.04(c)(4):

“For beams or girders curved after reaming or drilling field splices, at least 20 percent of the girder or beam lines shall be check assembled after curving to verify final geometry. If problems are discovered, additional lines shall be checked until the Engineer is satisfied that the problems have been corrected.”

Revise the fourth and fifth paragraphs of Article 505.04(d) to read:

“Holes for field connections of beams, girders, main truss or arch connections, skewed portals and rigid frames carrying design loads shall be subpunched and reamed with the members assembled in the shop and supported against deadload deflection.

The accuracy of the assembly, including camber, alignment of subpunched holes and finished-to-bear joints shall be approved by the Engineer before reaming is commenced.”

Revise the second sentence of the sixth paragraph of Article 505.04(d) to read:

“All holes for end field connections of floor beams shall be subpunched or subdrilled and then reamed to a template, and all corresponding holes in the members to which they connect shall be reamed to the same template, or these connections may be reamed with the members assembled.”

Revise the tables of equivalent materials in Article 505.04(q)(1)a. to read:

“Metric				
Row	ASTM Specification		AASHTO Specification	
	Previous	Current	Previous	Current
1	A 36M	A 709M Gr. 250	M 183M	M 270M Gr. 250
2	A 572M Gr. 345	A 709M Gr. 345	M 223M Gr. 345	M 270M Gr. 345W
3	A 588M	A 709M Gr. 345W	M 222M	M 270M Gr. 345W
4	Note 1	A 709M Gr. HPS 485W	Note 1	M 270M Gr. HPS 485W
5	A 514M	A 709M Gr. 690W	Note 1	M 270M Gr. 690W
6	A 517M	A 709M Gr. 690W	M 244M	M 270 M Gr. 690

Note 1. Previous specification deleted.

English				
Row	ASTM Specification		AASHTO Specification	
	Previous	Current	Previous	Current
1	A 36	A 709 Gr. 36	M 183	M 270 Gr. 36
2	A 572 Gr. 50	A 709 Gr. 50	M 223 Gr. 50	M 270 Gr. 50
3	A588	A 709 Gr. 50W	M 233	M270 Gr. 50W
4	Note 1	A 709 Gr. HPS 70W	Note 1	M 270 Gr. HPS 70W
5	A 514	A 709 Gr. 100W	Note 1	M 270 Gr. 100
6	A 517	A 709 Gr. 100	M 244	M 270 Gr. 100

Note 1. Previous specification deleted.”

505.05 Inspection. Revise the first paragraph of Article 505.05(b):

- “(b) Shop Assembly. All trusses and arches shall be completely, geometrically or sequentially assembled at the fabricating plant, subject to the Engineer’s approval of the fabricator’s proposed system. Continuous beams or girders and connections requiring reamed field connection holes shall be assembled, unless otherwise noted or approved by the Engineer before reaming is commenced. For girder or beam lines with more than three elements, at least three pieces shall be included in each assembly. Unless approved by the Engineer, assemblies made for reaming or drilling holes shall not be disassembled until after shop QA inspection has been made. Shop assembly of curved girders shall meet the additional requirements of Article 505.04(c)(4).”

505.07 Marking and Shipping. Revise the last sentence of the first paragraph of this Article to read:

“Paint marks on outside faces of unpainted fascia members or on the underside of their bottom flanges shall be removed prior to shipping.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 506. CLEANING AND PAINTING METAL STRUCTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

506.04 Shop Painting New Structures. Revise the last two sentences of the first paragraph of Article 506.04(k) to read:

“Paint marks used on unpainted steel shall not be in locations readily visible on the finished structure, such as the outside face of exterior members or the underside of bottom flanges. Marks in areas readily visible after erection shall be removed.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 508. REINFORCEMENT BARS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

508.06 Splicing. Revise this Article to read:

“508.06 Splicing. Reinforcement bars shall be furnished in their full lengths and splicing will only be permitted where shown on the plans or by written approval of the Engineer. All splicing shall be performed as specified herein; splicing by welding will not be allowed.

(a) **Lap Splicing.** Lap Splicing shall be performed as follows:

- (1) **Contact Lap Splice.** Bars to be spliced along a continuous line of reinforcement shall be lapped the specified length, placed in direct contact, and wired together.
- (2) **Non-Contact Lap Splice.** Bars to be spliced, which are not along a continuous line of reinforcement and not specified to be contact spliced, shall be lapped the specified length and either spaced transversely a clear distance apart or contact spliced as described in (1) above, whichever requires the least adjustment to the bar spacing. The clear distance apart shall be from a minimum of 65 mm (2 1/2 in.) to a maximum of either 1/5 the lap length or 150 mm (6 in.), whichever is least.

(b) **Bar Splicer Assemblies.** When specified on the plans, the splicing of bars shall be performed with bar splicer assemblies. The assemblies shall be of an approved type and shall develop, in tension, at least 125 percent of the yield strength of the lapped reinforcement bars.”

508.08 Basis of Payment. Add the following paragraph after the first paragraph of this Article:

“Bar splicer assemblies will be paid for at the contract unit price per each for BAR SPLICERS.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 512. PILING

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

512.10 Driving Piles. Revise the first sentence of the first paragraph of Article 512.10(c) to read:

“When called for on the plans, holes shall be precored for piles which are to be driven in an embankment area.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 540. BOX CULVERTS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

540.04 General. Add the following paragraph after the third paragraph of this Article:

“The excavation and backfilling for concrete box culverts shall be according to Section 502.”

540.05 Cast-In-Place Concrete Box Culverts. Revise the fourth and fifth sentences of the third paragraph of this Article to read:

“In box culverts of sufficient size to prohibit that part above the footing being completed in one continuous operation, horizontal construction joints will be permitted wherever necessary below the top slab. A horizontal construction joint will be required below the top slab of any culvert having a vertical clearance of more than 2 m (6 ft).”

540.06 Precast Concrete Box Culverts. Add the following paragraph after the first paragraph of this Article:

“End sections may be precast or cast-in-place. Cast-in-place end sections shall include all cast-in-place collars, headwalls, cutoff walls, wingwalls, footings and reinforcement necessary to complete the end sections.”

Revise the fourth paragraph of this Article to read:

“When required, shop drawings for precast concrete box culvert sections, precast or cast-in-place end sections and headwalls, and cast-in-place collars shall be submitted according to Article 504.04(a).”

540.07 Method of Measurement. Delete the fourth sentence of the third paragraph of Article 540.07(b).

540.08 Basis of Payment. Revise the third, fourth and fifth paragraphs of this Article to read:

“When specified on the plans, precast concrete box culverts will be paid for at the contract unit price per meter (foot) for PRECAST CONCRETE BOX CULVERTS of the size specified.

End sections will be paid for at the contract unit price per each for BOX CULVERT END SECTIONS of the culvert number specified. If the Contractor, with the approval of the Engineer, elects to use a different end section from that shown on the plans, no adjustment in the cost of the precast box culverts or end sections will be allowed.

When the plans specify a cast-in-place concrete box culvert and the Contractor, at his/her option, constructs the alternate precast concrete box culvert, no adjustment in the cost for the specified cast-in-place culvert will be allowed. Compensation under the contract bid items for concrete box culverts and reinforcement bars shall cover the cost of the precast concrete box culvert alternate complete.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 669. REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

669.14 Project Reports. Revise the first paragraph of Article 669.14(a) to read:

- "(a) Interim reports. The Contractor shall be responsible for submitting two copies of a report to the Engineer on a monthly or quarterly basis regarding the management and/or monitoring of non-special waste, special waste or hazardous waste. One additional copy of the technical report shall be sent to the District's Environmental Studies Unit. The reports shall include all pertinent information regarding the project including, but not limited to:"

Add the following subparagraphs to Article 669.14(a):

- "(7) Plans showing the areas of contamination,
- (8) Cost of identifying, monitoring, handling, and disposing of contaminated soil or groundwater, the cost of preventing further migration of contaminants and the cost for worker protection. All cost should be in the format of the contract pay items listed in the contract plans."

Add the following sentence to the end of Article 669.14(b)(2):

"All cost should be in the format of the contract pay items listed in the contract plans."

669.15 Method of Measurement. Revise the first paragraph of this Article to read:

"669.15 Method of Measurement. Non-special waste, special waste and hazardous waste soil disposal will be measured for payment according to either Article 202.07(b) when performing earth excavation, Article 502.14(b) when excavating for structures or by computing the volume of the trench using the maximum trench width permitted and the actual depth of the trench."

669.16 Basis of Payment. Revise the first paragraph of this Article to read:

"669.16 Basis of Payment. Underground storage tank removal, soil excavation, soil and content sampling, and the excavated soil, UST content, and UST disposal will be paid for at the contract unit price per each for UNDERGROUND STORAGE TANK REMOVAL."

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 671. MOBILIZATION

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

Revise this Section to read:

“SECTION 671. MOBILIZATION

671.01 Description. This work shall consist of preparatory work and operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site for the establishment of offices, buildings and other facilities necessary for work on the project and for all other work or operations which must be performed or costs incurred when beginning work on the project.

671.02 Basis of Payment. This work will be paid for at the lump sum price for MOBILIZATION. The amount which a Contractor will receive payment for, according to the following schedule, will be limited to six percent of the original contract amount. Should the bid for mobilization exceed six percent, the amount over six percent will not be paid until 90 percent of the adjusted contract value is earned.

- (a) Upon execution of the contract, 75 percent of the pay item will be paid.
- (b) When ten percent of the original contract amount is earned, an additional 15 percent of the pay item will be paid.
- (c) When 90 percent of the adjusted contract value is earned, the remaining ten percent of the pay item will be paid along with any amount bid in excess of six percent of the original contract amount.

Nothing herein shall be construed to limit or preclude partial payment for other items as provided for by the contract.”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 702. WORK ZONE TRAFFIC CONTROL DEVICES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

702.03 Channeling Devices. Add the following subparagraphs to this Article:

- “(g) Direction Indicator Barricades. When specified on the plans, direction indicator barricades shall be used in lane closure tapers. The barricades shall be placed in series at the same locations as the devices they are replacing, with the arrow panel directing traffic from the closed lane into the adjacent lane or crossover. Directional arrows on the backside of the device shall be covered if visible to and in conflict with traffic traveling in the opposite direction.

The top panels shall be 300 mm x 600 mm (12 in. x 24 in.) with fluorescent orange sheeting meeting the requirements of Article 1084.02(b). The black indicator arrow on the top panel shall be 530 mm (21 in.) long with a 240 mm (9.5 in.) wide arrow barb and 90 mm (3.5 in.) wide arrow shaft. The bottom panels shall be 200 mm x 600 mm (8 in. x 24 in.) with orange and white striped Type A sheeting meeting the initial minimum coefficient of retroreflection in Article 1084.02(a).”

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Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1003. FINE AGGREGATES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1003.01 Materials. Add the following paragraph after the third paragraph of Article 1003.01(c):

"Any aggregate produced under the Department's current Policy Memorandum, 'Aggregate Gradation Control System (AGCS)', shall meet the gradation requirements set under the AGCS program."

1003.02 Fine Aggregate for Portland Cement Concrete and Mortar. Revise this Article to read:

"1003.02 Fine aggregate for Portland Cement Concrete and Mortar. The aggregate shall meet the requirements of Article 1003.01 and the following specific requirements:

- (a) Description. The fine aggregate shall consist of washed sand, washed stone sand or a blend of washed sand and washed stone sand approved by the Engineer. Stone sand produced through an air separation system approved by the Engineer may be used in place of washed stone sand.
- (b) Quality. The fine aggregate materials in the gradations specified for portland cement concrete shall meet Class A Quality, except that the minus 75 μ m (No. 200) sieve AASHTO T11 requirement in the Fine Aggregate Quality Table shall not apply to washed stone sand or any blend of washed stone sand and washed sand approved by the Engineer. The fine aggregate for masonry mortar shall meet Class A Quality or, in the case of natural sand, shall meet the deleterious quantity limits for Class A Quality.
- (c) Gradation. The washed sand for portland cement concrete shall be Gradation FA 1 or FA 2. Washed stone sand for portland cement concrete, which includes any blend with washed sand, shall be Gradation FA 1, FA 2 or FA 20. Fine aggregate for masonry mortar shall be Gradation FA 9.
- (d) Use of Fine Aggregates. The blending, alternate use, and /or substitution of fine aggregates from different sources for use in portland cement concrete will not be permitted without the approval of the Engineer. Any blending shall be by interlocked mechanical feeders at the aggregate source or concrete plant. The blending shall be uniform, and the equipment shall be approved by the Engineer."

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Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1004. COARSE AGGREGATE

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1004.01 Materials. Add the following paragraph after the third paragraph of Article 1004.01(c):

"Any aggregate produced under the Department's current Policy Memorandum, 'Aggregate Gradation Control System (AGCS)', shall meet the gradation requirements set under the AGCS program."

1004.03 Coarse Aggregate for Bituminous Courses. Revise subparagraph (a) of this Article to read:

“(a) Description. The coarse aggregate for bituminous courses shall be according to the following table.

Class	Mixture	Aggregates Allowed
A	Seal or Cover	Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
B		Gravel Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete
I and Superpave	A or B and IL-25.0 or IL-19.0 Binder	Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF)

Class	Mixture	Aggregates Allowed
I and Superpave	C Surface	Crushed Gravel Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag (except when used as leveling binder) Gravel (only when used in Class I Type 3CL or Superpave IL-9.5L)
I and Superpave	D Surface	Crushed Gravel Crushed Stone (other than Limestone) Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Limestone may be used in Mixture D if blended by volume in the following coarse aggregate percentages: Up to 25% Limestone with at least 75% Dolomite. Up to 50% Limestone with at least 50% any aggregate listed for Mixture D except Dolomite. Up to 75% Limestone with at least 25% Crushed Slag (ACBF) or Crushed Sandstone.
I and Superpave	E Surface	Crushed Gravel Crushed Stone (other than Limestone and Dolomite) Crushed Sandstone No Limestone. Dolomite may be used in Mixture E if blended by volume in the following coarse aggregate percentages: Up to 75% Dolomite with at least 25% Crushed Sandstone, Crushed Slag (ACBF) or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 75% of either Slag by volume. Up to 50% Dolomite with at least 50% of any aggregate listed for Mixture E. If required to meet design criteria, Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) may be blended by volume in the following coarse aggregate percentages: Up to 75% Crushed Gravel or Crushed Stone (other than Limestone or Dolomite) with at least 25% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 25% to a maximum of 50% of either Slag by volume.

Class	Mixture	Aggregates Allowed
I and Superpave	F Surface	<p>Crushed Sandstone</p> <p>No Limestone.</p> <p>Crushed Gravel or Crushed Stone (except Limestone) may be used in Mixture F if blended by volume in the following coarse aggregate percentages:</p> <p>Up to 50% Crushed Gravel or Crushed Stone with at least 50% Crushed Sandstone, Crushed Slag (ACBF), or Crushed Steel Slag. When Crushed Slag (ACBF) or Crushed Steel Slag are used in the blend, the blend shall contain a minimum of 50% to a maximum of 75% of either Slag by volume"</p>

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1020. PORTLAND CEMENT CONCRETE

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1020.04 Concrete Classes and General Mix Design Criteria. Revise Table 1 of this Article to read:

(See Next Page)

"TABLE 1. CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA					
Class Of Conc.	Use	Specification Section Reference	Cement Factor Kg/cu m		Max. Water/Cement Ratio kg/kg
			Min.	Max.	
BD	Bridge Deck	503	360		0.44
PC	Precast Concrete Structures	504	335	418	0.44
	Precast Concrete Piles	512			
	Precast Concrete Barrier	637	335	418	0.44
	Temporary Concrete Barrier	704			
PS	Precast Prestressed Members	504	335	418	0.44
	Precast Prestressed Piles	512			
PV	PCC Pavement	420, 421	335(1) 360(2)		0.42
	PCC Base Course	353			
	PCC Base Course Widening	354			
	PCC Driveway Pavement	423			
PP	PCC Pavement Patching	442	Ty. I Cem. 385	Ty. I Cem. 445	
			Ty. III Cem. 365	Ty. III Cem. 425	
MS	Massive Structures (except Superstructures)	503	335(1) 360(2)		0.48
SI	Structures (except Br. Deck)	503	335(1) 360(2)		0.48
	Gutter	606			
	Pile Encasement	512			
	Curb & Gutter	606			
	Median	606			
	Tower Foundations	837			
	Pole Foundations	836			
	Culverts	540			
	Handrails	503			
	Headwalls	542			
	Paved Ditch	606			
	Slope Wall	511			
	Sidewalk	424			
	Cast-In-Place Concrete Barrier	637			
	Miscellaneous	611			
RR	PCC Railroad Crossing	422			0.48
SC	Seal Coat Concrete	503	335 (1) 360 (2)		0.48
SH	PCC Shoulders	483	335 (1)		0.42
	Shoulder Curb	662	360 (2)		

(1) Central mixed.

(2) Truck mixed or shrink mixed.

TABLE 1. (CONT'D) CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA								
Class of Conc.	Slump, mm	Mix Design Compressive Strength, KPa			Mix Design Flexural Strength, KPa		Air Content, %	Coarse Aggregate Gradations Permitted
		Days			Days			
		3	14	28	3	14		
BD	50-100		Min. 27,500			Min. 4650	5.0-8.0	CA-7, CA-11 or CA-14
PC	25-75			Min. 31,000			5.0-8.0	CA-7, CA-11, CA-14 or
	25-75			Min. 27,500			5.0-8.0	CA-7 & CA-16
PS	25-75			Min. 34,500			5.0-8.0	CA-7, CA-11, CA-14 or CA-7 & CA-16
PV	20-40	Ty. III Cem. Min. 24,000	Min. 24,000		Ty. III Cem. Min. 4500	Min. 4500	5.0-8.0	CA-5 & CA-7, CA-5 & CA-11, CA-7, CA-11 or CA-14
PP	100 Max.						4.0-7.0	CA-7, CA-11, CA-13, CA-14 or CA-16
MS	50-100		Min. 24,000			Min. 4500	5.0-8.0	CA-3 & CA-7, CA-3 & CA-11, CA-5 & CA-7, CA-5 & CA-11, CA-7 or CA-11
SI	50-100		Min. 24,000			Min. 4500	5.0-8.0	CA-7, CA-11 or CA-14
RR	50-100						4.0-7.0	CA-7, CA-11 or CA-14
SC	75-125		Min. 24,000			Min. 4500	N/A	CA-3 & CA-7, CA-3 & CA-11, CA-5 & CA-7, CA-7 & CA-11, CA-7 or CA-11
SH	20-40		Min. 24,000			Min. 4500	5.0-8.0	CA-5 & CA-7, CA-5 & CA-11, CA-7, CA-11 or CA-14

TABLE 1. CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA					
Class Of Conc.	Use	Specification Section Reference	Cement Factor Cwt/cu yd		Max. Water/Cement Ratio lb/lb
			Min.	Max.	
BD	Bridge Deck	503	6.05		0.44
PC	Precast Concrete Structures	504	5.65	7.05	0.44
	Precast Concrete Piles	512			
	Precast Concrete Barrier	637	5.65	7.05	0.44
	Temporary Concrete Barrier	704			
PS	Precast Prestressed Members	504	5.65	7.05	0.44
	Precast Prestressed Piles	512			
PV	PCC Pavement	420, 421	5.65 (1) 6.05 (2)		0.42
	PCC Base Course	353			
	PCC Base Course Widening	354			
	PCC Driveway Pavement	423			
PP	PCC Pavement Patching	442	Ty. I Cem. 6.50	Ty. I Cem. 7.50	
			Ty. III Cem. 6.20	Ty. III Cem. 7.20	
MS	Massive Structures (except Superstructures)	503	5.65 (1) 6.05 (2)		0.48
SI	Structures (except Br. Deck)	503	5.65 (1) 6.05 (2)		0.48
	Gutter	606			
	Pile Encasement	512			
	Curb & Gutter	606			
	Median	606			
	Tower Foundations	837			
	Pole Foundations	836			
	Culverts	540			
	Handrails	503			
	Headwalls	542			
	Paved Ditch	606			
	Slope Wall	511			
	Sidewalk	424			
	Cast-In-Place Concrete Barrier	637			
	Miscellaneous	611			
RR	PCC Railroad Crossing	422			0.48
SC	Seal Coat Concrete	503	5.65 (1) 6.05 (2)		0.48
SH	PCC Shoulders	483	5.65 (1)		0.42
	Shoulder Curb	662	6.05 (2)		

(1) Central mixed.

(2) Truck mixed or shrink mixed.

TABLE 1. (CONT'D) CLASSES OF PORTLAND CEMENT CONCRETE AND MIX DESIGN CRITERIA								
Class of Conc.	Slump, in.	Mix Design Compressive Strength, psi			Mix Design Flexural Strength, psi		Air Content, %	Coarse Aggregate Gradations Permitted
		Days			Days			
		3	14	28	3	14		
BD	2-4		Min. 4000			Min. 675	5.0-8.0	CA-7, CA-11 or CA-14
PC	1-3			Min. 4500			5.0-8.0	CA-7, CA-11, CA-14 or
	1-3			Min. 4000			5.0-8.0	CA-7 & CA-16
PS	1-3			Min. 5000			5.0-8.0	CA-7, CA-11, CA-14 or CA-7 & CA-16
PV	3/4 - 1 1/2	Ty. III Cem. Min. 3500	Min. 3500		Ty. III Cem. Min. 650	Min. 650	5.0-8.0	CA-5 & CA-7, CA-5 & CA-11, CA-7, CA-11 or CA-14
PP	4 Max.						4.0-7.0	CA-7, CA-11, CA-13, CA-14 or CA-16
MS	2-4		Min. 3500			Min. 650	5.0-8.0	CA-3 & CA-7, CA-3 & CA-11, CA-5 & CA-7, CA-5 & CA-11, CA-7 or CA-11
SI	2-4		Min. 3500			Min. 650	5.0-8.0	CA-7, CA-11 or CA-14
RR	2-4						4.0-7.0	CA-7, CA-11 or CA-14
SC	3-5		Min. 3500			Min. 650	N/A	CA-3 & CA-7, CA-3 & CA-11, CA-5 & CA-7, CA-7 & CA-11, CA-7 or CA-11
SH	3/4 - 1 1/2		Min. 3500			Min. 650	5.0-8.0	CA-5 & CA-7, CA-5 & CA-11, CA-7, CA-11 or CA-14"

1020.05 Other Concrete Criteria. Revise the last sentence of the fifth paragraph of Article 1020.05(b) to read:

“A cement factor below 320 kg/cu m (5.35 hundredweight/cu yd) will not be permitted.”

Revise Article 1020.05(c) to read:

- “(c) Fly Ash. At the Contractor's option, fly ash from approved sources may partially replace portland cement in concrete mixtures, for Class BD, PV, MS, SI, SC, and SH, except when blended cements are used. A mix design consisting of cement, fly ash and ground granulated blast-furnace slag may be used only when specified by the Department.

Fly ash and all other materials proposed for portland cement concrete mix designs shall be furnished to the Engineer at least 60 days prior to the initiation of work. The Engineer may elect to waive the required mix designs if the proposed materials combination has been previously approved and has demonstrated satisfactory field performance.

If Class F fly ash is used, the amount of cement replaced shall not exceed 15 percent by mass (weight) and the replacement ratio (fly ash:cement replaced) shall be a minimum of 1.5:1.

If Class C fly ash is used, the amount of cement replaced shall not exceed 20 percent by mass (weight), at a minimum replacement ratio of 1.25:1. For Class C fly ash, the minimum replacement ratio may be reduced to 1:1, if the fly ash calcium oxide is 18 percent or greater, the fly ash loss on ignition is less than 2.0 percent, and a water-reducing or high range water-reducing admixture is used.

For bridge decks, parapets, pier and abutment caps, backwalls, wingwalls and upper 750 mm (2.5 ft) of solid piers, the amount of cement replaced shall not exceed 15 percent by mass (weight) at a minimum replacement ratio of 1.5:1, regardless of the type of fly ash used.

Measurements of fly ash and cement shall be rounded up to the nearest 2.4 kg (5 lb).

Mix design strength requirements for fly ash compensated mixes shall be according to Article 1020.04.

Requirements for opening the pavement and/or structures to traffic and removal of falsework shall be according to Articles 701.05 and 503.05, except a minimum of 28 days from time of placement shall elapse in the absence of strength tests.

Fly ash shall not be used in concrete mixtures when the air temperature is below 4 °C (40 °F) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to reduce the quantity of fly ash, increase the cement, or eliminate the cement

factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b).

Fly ash with an R factor greater than 3.0 shall not be used in concrete which will be subjected to high sulfate concentrations in soil or water. High sulfate soils shall be those with concentrations of water soluble sulfate (as SO_4) greater than 0.10 percent and high sulfate waters shall be those with sulfate concentrations (as SO_4) greater than 150 mg/L."

Add the following subparagraph to Article 1020.05:

- "(k) Ground Granulated Blast-Furnace (GGBF) Slag. At the Contractor's option, GGBF slag may partially replace portland cement in concrete mixtures, for Class BD, PV, MS, SI, SC and SH, except when blended cements are used. A mix design consisting of cement, GGBF slag and fly ash may be used only when specified by the Department.

GGBF slag and all other materials proposed for portland cement concrete mix designs shall be furnished to the Engineer at least 60 days prior to the initiation of work. The Engineer may elect to waive the required mix designs if the proposed materials combination has been previously approved and has demonstrated satisfactory field performance.

The amount of cement replaced by GGBF slag shall not exceed 25 percent by mass (weight). The replacement ratio (GGBF slag:cement replaced) shall be a minimum of 1 to 1 for Grade 100 and 120. Measurements of GGBF slag and cement shall be rounded up to the nearest 2.5 kg (5 lb).

Mix design strength requirements for GGBF slag compensated mixes shall be according to Article 1020.04.

Requirements for opening the pavement and/or structures to traffic and removal of falsework shall be according to Articles 701.05 and 503.04 respectively, except a minimum of 28 days from time of placement shall elapse in the absence of strength tests.

GGBF slag shall not be used in concrete mixtures when the air temperature is below 4 °C (40 °F) without permission of the Engineer. If permission is given, the mix design strength requirement may require the Contractor to reduce the quantity of GGBF slag, increase the cement, or eliminate the cement factor reduction for a water-reducing or high range water-reducing admixture which is permitted according to Article 1020.05(b)."

1020.13 Curing and Protection. Revise the sixth and seventh sentence of the first paragraph of Article 1020.13(a)(2) to read:

"Any tears or holes in the sheeting shall be repaired. When sheets are no longer serviceable as a single unit, the Contractor may select from such sheets and reuse those which will serve for further applications, provided two sheets are used as a single unit; however, the double sheet units will be rejected when the Engineer deems that they no longer provide an airtight cover."

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1021. CONCRETE ADMIXTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1021.03 Retarding and Water-Reducing Admixtures. Revise the first sentence of the fourth paragraph of Article 1021.03(c) to read:

“For Class MS, SI, RR, SC and SH concrete, the water/cement ratio shall not exceed 0.44.”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1022. CONCRETE CURING MATERIALS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

Revise this Section to read:

“SECTION 1022. CONCRETE CURING MATERIALS

1022.01 Membrane Curing Compound. The membrane curing compound shall be one of the following three types. The type used shall be as specified in the contract or authorized by the Engineer.

Type I. This material shall conform to the requirements of AASHTO M 148 (ASTM C 309, Type 1, Class A). It shall be clear or translucent, without dye, and there are no restrictions on dissolved solids.

Type II. This material shall conform to the requirements of AASHTO M 148 (ASTM C 309, Type 1-D, Class B). It shall be clear or translucent, with fugitive dye, and it shall not contain materials which may prevent bonding of hot mix asphalt to concrete surfaces.

Type III. This material shall conform to the requirements of AASHTO M 148 (ASTM C 309, Type 2, Class A). It shall be white pigmented and there are no restrictions on dissolved solids.

In addition to the requirements of AASHTO M 148, each of the above materials shall also conform to the following:

- (a) The material will be sampled at the manufacturer's plant by an authorized representative of the Department. The Engineer will test the sampled material, and no material shall be used until it has been approved.
- (b) Each container shall be legibly marked with the name of the manufacturer, the type (IDOT designation) or type/class (ASTM designation), the manufacturer's batch or lot number, date of manufacture, and the Department's test identification number.
- (c) The material shall not be used after six months from the date of manufacture unless sampled and tested for re-approval by the Engineer.

- (d) Based on information provided in the material safety data sheet, the Engineer reserves the right to reject the material due to health or safety concerns.
- (e) Specimens used for determining moisture loss will be made and tested according to AASHTO T 155, except as follows:
 - (1) The molds for the test specimens will be standard pie tins having the shape of the frustum of a right cone, 135 mm (5 3/8 in.) in diameter at the top, 100 mm (4 in.) in diameter at the bottom and 24 mm (15/16 in.) in depth, or any other size and shape found necessary or desirable.
 - (2) The flow of the mortar used in the test specimens will be performed a minimum of once a week or when the mortar materials change. The molds will be filled in one layer and struck off even with the top of the rim of the mold. Edge sealing will not be performed.
 - (3) When material is applied to the surface of the test specimens, the rate of spraying will be 0.2 L/sq m (1 gal/200 sq ft), and the tip of the nozzle will be held 125 to 150 mm (5 to 6 in.) above the surface of the test specimens.

1022.02 Burlap Curing Blankets. The burlap curing blankets shall conform to the requirements of AASHTO M 182, Class 3. The burlap shall be free from substances which may be deleterious to freshly placed concrete.

Blankets shall be in a condition satisfactory to the Engineer. Any tears or holes in the blankets shall be repaired.

1022.03 Waterproof Paper Blankets. The waterproof paper blankets shall be white and conform to the requirements of AASHTO M 171 except AASHTO T 155 moisture loss test specimens shall be made according to Articles 1022.01(e)(1) and 1022.01(e)(2).

Blankets shall be in a condition satisfactory to the Engineer. Any tears or holes in the blankets shall be repaired.

1022.04 White Polyethylene Sheeting. The polyethylene sheeting shall be white opaque and conform to the requirements of AASHTO M 171 except AASHTO T 155 moisture test specimens shall be made according to Articles 1022.01(e)(1) and 1022.01(e)(2).

Sheets shall be in a condition satisfactory to the Engineer. Any tears or holes in the sheets shall be repaired.

1022.05 Burlap-Polyethylene Blankets. The white burlap-polyethylene blankets shall conform to the requirements of AASHTO M 171 except AASHTO T 155 moisture loss test specimens shall be made according to Articles 1022.01(e)(1) and 1022.01(e)(2). The white burlap-polyethylene blankets shall be free from substances which may be deleterious to freshly placed concrete.

Blankets shall be in a condition satisfactory to the Engineer. Any tears or holes in the blankets shall be repaired."

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1024. NONSHRINK GROUT

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

Revise this Section to read:

“SECTION 1024. NONSHRINK GROUT

1024.01 Requirements. Nonshrink grout shall be Grade B or C according to ASTM C 1107 except as follows:

- (a) In Table 1 Performance Requirements, the minimum one day compressive strength shall be 20,700 kPa (3000 psi) and the three day compressive strength shall not apply.
- (b) Delete Section 10. Instead, the sample material shall be obtained from a minimum of three “as sold” bags. The three bags shall be mixed together to make a composite sample. Mixing shall be done in a dry condition using a mortar mixer with sufficient capacity. Each “as sold” bag shall be a minimum of 22.7 kg (50 lb). For testing, obtain sufficient material from the composite sample to make all test specimens.

For making test specimens, mix the nonshrink grout in a mortar mixing apparatus as specified in ASTM C 305. Mixing shall begin with dry nonshrink grout material for 30 seconds. Thereafter, continue mixing and add the entire volume of water within five seconds. Then mix for 25 more seconds. Stop mixing and scrape the bowl sides for 15 seconds. Then mix for an additional two minutes and 45 seconds. Finally, check the flow according to ASTM C 827.

- (c) Delete Section 11.5.2. Instead, place a glass plate over the cube mold. Use paraffin to seal the edges of the glass plate to the mold. The plate shall overlap the cube mold a minimum 6 mm (1/4 in.). Place a minimum 2.2 kg (5.0 lb) weight on the surface of the glass. Immediately place test specimens in the moist room.
- (d) Sections 6.2, 6.3, 6.4, 8, 9, 11.3 and 11.4.2 shall not apply.
- (e) Add the following requirements.

- (1) The initial set shall be a minimum 60.0 minutes when tested according to ASTM C 953.

- (2) The grout shall have a minimum 80.0 percent relative dynamic modulus of elasticity when tested according to Illinois Modified AASHTO T 161, Procedure B."

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1056. PREFORMED FLEXIBLE GASKETS AND MASTIC JOINT
SEALER FOR SEWER AND CULVERT PIPE

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

Revise this Section to read:

**“SECTION 1056. PREFORMED FLEXIBLE GASKETS, MASTIC JOINT SEALER,
AND RUBBER GASKETS FOR SEWER AND CULVERT PIPE**

1056.01 Requirements. Preformed flexible gaskets and mastic joint sealer to be used for laying sewer and culvert pipe shall conform to the requirements of AASHTO M 198, rubber gaskets shall conform to AASHTO M 315M (M 315).”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1060. WATERPROOFING MATERIALS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1060.08 Asphalt Emulsion for Waterproofing. Revise the third sentence of the first paragraph of this Article to read:

“In addition, the material shall meet the moisture retention requirements specified in Article 1022.01(e) and shall pass the following tests:”

State of Illinois
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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1069. POLE AND TOWER

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1069.01 Light Poles. Add the following paragraph to the end of Article 1069.01(b)(2)b.

“The end of the truss arm shall have a 60 mm (2 3/8 in.) outside diameter tenon with an extension of not less than 190 mm (7 1/2 in.) or more than 265 mm (10 1/2 in.). The tenon shall be coordinated with the luminaires being furnished for the contract so no more than 50 mm (2 in.) of the tenon between the end of the truss arm and the luminaire is exposed.”

Revise the first sentence of Article 1069.01(c)(2)b.2. to read:

“The steel shall be according to ASTM A 595 Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2.”

Add the following subparagraph to the end of Article 1069.01(c)(2)b.

“9. The end of the truss arm shall have a 60 mm (2 3/8 in.) outside diameter tenon with an extension of not less than 190 mm (7 1/2 in.) or more than 265 mm (10 1/2 in.). The tenon shall be coordinated with the luminaires being furnished for the contract so no more than 50 mm (2 in.) of the tenon between the end of the truss arm and the luminaire is exposed.”

State of Illinois
Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1070. FOUNDATION AND BREAKAWAY DEVICES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1070.01 Light Pole Foundation, Metal. Revise the first paragraph and table of this Article to read:

“1070.01 Light Pole Foundation, Metal. Metal foundations shall be fabricated from material new and unused in any previous application and shall be galvanized according to AASHTO M 111. The manufacturer shall provide a certification that the materials are new and meet the specified requirements and shall accompany the submittal.

Metal foundations shall be fabricated from steel.	
Baseplate:	AASHTO M 270M, Grade 250 (M 270, Grade 36)
Shaft:	ASTM A 252, Grade 2, Phosphorus 0.04% max., Sulfur 0.05% max.
Helix Screw:	AASHTO M 270M, Grade 250 (M 270, Grade 36)
Pilot Point:	AASHTO M 270M, Grade 250 (M 270, Grade 36)”

Revise the fourth paragraph of this Article to read:

“Studs or threaded rods shall be furnished with the foundations and shall be galvanized according to Article 1006.09. Studs or rods shall be 25 mm (1 in.) diameter and shall be according to AASHTO M 314 or ASTM F1554. Grade 380 (Grade 55) rods shall be used or Grade 725 (Grade 105) where higher strength is required. Unspecified welding of studs or rods will only be permitted by written approval of the Engineer. Metal foundations shall come complete with galvanized steel plates or plugs to fill any penetrations in the base plate which are in addition to the four threaded stud holes and the center wireway opening.”

1070.02 Anchor Rods. Revise this Article to read:

“1070.02 Anchor Rods. Anchor rods shall be according to AASHTO M 314 or ASTM F1554. Grade 380 (Grade 55) rods shall be used or Grade 725 (Grade 105) where higher strength is required. Unspecified welding of anchor rods will only be permitted by written approval of the Engineer.

The entire length of the anchor rods as well as the nuts and washers shall be galvanized according to Article 1006.09. The anchor rods shall be threaded a minimum of 223 mm (9 in.). The length of threaded rod above the concrete

foundation shall be coordinated with the light pole and breakaway device requirements as applicable.”

1070.03 Light Tower Anchor Rod Assembly. Revise this Article to read:

“ 1070.03 Light Tower Anchor Rod Assembly. Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 725 (Grade 105). Unspecified welding of anchor rods will only be permitted by written approval of the Engineer. They shall also meet the CVN toughness requirements of Article 1094.03 and be galvanized according to Article 1006.09. Anchor rod information shall be submitted for approval and shall be fully coordinated with the tower manufacturer’s requirements. Reinforcement bars shall be according to Article 1006.10. Anchor rod nuts for towers shall be the self-locking type with steel inserts.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1077. POST AND FOUNDATION

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1077.03 Mast Arm Assembly and Pole. Revise Article 1077.03(a)(1) to read:

“(1) Loading. The mast arm assembly and pole, and combination mast arm assembly and pole shall be designed for the loading shown on the plans. The design wind load shall be according to the AASHTO publication, “Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals” for 130 km/hr (80 mph) wind velocity.”

Revise the first sentence of the first paragraph of Article 1077.03(a)(2) to read:

“The mast arm and pole shall be fabricated according to ASTM A 595 Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2.”

Revise the first sentence of the first paragraph of Article 1077.03(b) to read:

“The anchor rods shall be ASTM F 1554 Grade 55 according to Article 1006.09 and shall be threaded a minimum of 185 mm (7 1/2 in.) at one end and have a bend at the other end.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1080. FABRIC MATERIALS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1080.01 Fabric Envelope for Pipe Underdrains. Revise the tables in Article 1080.01(a)(3) to read:

"PHYSICAL PROPERTIES				
	Knitted		Woven or Nonwoven	
Min. Weight (g/sq m)	120 applied 160 relaxed	ASTM D 3887 ASTM D 3887	120	ASTM D 3776
Min. Wet Grab Tensile Strength (N)	225	ASTM D 4632	450	ASTM D 4632 ^{1/}
Grab Elongation @ Break (%)	--	--	20 min.	ASTM D 4632 ^{1/}
Equivalent Opening Size (EOS No.)	600 µm min.	Corps of Engrs. UFGS-02378A ^{2/}	600 µm nonwoven ^{2/} 300 µm min. woven ^{2/}	--
Burst Strength (kPa)	690 min.	ASTM D 3887 ^{2/}	--	--

PHYSICAL PROPERTIES (ENGLISH)				
	Knitted		Woven or Nonwoven	
Min. Weight (oz./sq yd)	3.5 applied 4.8 relaxed	ASTM D 3887 ASTM D 3887	3.5	ASTM D 3776
Min. Wet Grab Tensile Strength (lb)	50	ASTM D 4632	100	ASTM D 4632 ^{1/}
Grab Elongation @ Break (%)	--	--	20 min.	ASTM D 4632 ^{1/}
Equivalent Opening Size (EOS No.)	30 min.	Corps of Engrs. UFGS-02378A ^{2/}	30 min. nonwoven ^{2/} 50 min. woven ^{2/}	--
Burst Strength (psi)	100 min.	ASTM D 3887 ^{2/}	--	--

1/ For woven fabric, test results shall be referenced to orientation with warp or fill, whichever the case may be.

2/ Manufacturer's certification to meet test requirements."

1080.02 Geotextile Fabric. Revise the tables in this Article to read:

“Physical Properties	Ground Stabilization	Silt Filter Fence Fabric
Grab tensile strength (N) ASTM D 4632 ^{1/}	900 min.	900 min.
Grab elongation @ break (%) ASTM D 4632 ^{1/}	12 min.	12 min.
Burst strength (kPa) – ASTM D 751 ^{2/}	1720 min.	1720 min.
Trapezoidal tear strength (N) ASTM D 4533 ^{2/}	335	--
Width (m)	--	1 min.
Weight (g/sq m) – ASTM D 3776	135 min.	135 min.
Equivalent opening size (EOS) Sieve No. – Corps of Engrs. UFGS-02378A ^{2/}	--	600 µm min. (nonwoven) 300 µm min. (woven)

Physical Properties (English)	Ground Stabilization	Silt Filter Fence Fabric
Grab tensile strength (lb) ASTM D 4632 ^{1/}	200 min.	200 min.
Grab elongation @ break (%) ASTM D 4632 ^{1/}	12 min.	12 min.
Burst strength (psi) – ASTM D 751 ^{2/}	250 min.	250 min.
Trapezoidal tear strength (lb) ASTM D 4533 ^{2/}	75	--
Width (ft)	--	3.5 min.
Weight (oz/sq yd) – ASTM D 3776	4.0 min.	4.0 min.
Equivalent opening size (EOS) Sieve No. – Corps of Engrs. UFGS-02378A ^{2/}	--	30 min. (nonwoven) 50 min. (woven)

1/ For woven fabric, test results shall be referenced to orientation with warp or weave, whichever the case may be. Both woven and nonwoven fabric shall be tested wet.

2/ Test results may be obtained by manufacturer's certification.”

1080.05 Geotechnical Fabric for French Drains. Revise the table in this Article to read:

"PHYSICAL PROPERTIES	
Weight (g/sq m) – ASTM D 3776	120 min.
Grab tensile strength (N) – ASTM D 4632 ^{1/}	450 min.
Grab elongation @ break (%) ASTM D 4632 ^{1/}	20 min.
Equivalent opening size (EOS NO.) – Corps of Engrs. UFGS-02378A ^{2/}	600 µm min (nonwoven) 300 µm min. (woven)

PHYSICAL PROPERTIES (ENGLISH)	
Weight (oz/sq yd) – ASTM D 3776	3.5 min.
Grab tensile strength (lb) – ASTM D 4632 ^{1/}	100 min.
Grab elongation @ break (%) ASTM D 4632 ^{1/}	20 min.
Equivalent opening size (EOS NO.) – Corps of Engrs. UFGS-02378A ^{2/}	30 min. (nonwoven) 50 min. (woven)

- 1/ For woven fabric, test results shall be referenced to orientation with warp or fill, whichever the case may be. Both woven and nonwoven fabrics shall be tested wet.
- 2/ Manufacturer's certification of fabric to meet requirements."

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1083. ELASTOMERIC BEARINGS

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1083.03 TFE Material. Revise the first sentence of the first paragraph of this Article to read:

“The TFE resin shall be 100 percent virgin material, premium grade, meeting the requirements of ASTM D 4894.”

1083.05 Structural Steel. Revise Article 1083.05(d) to read:

“(d) Threaded Stud. The threaded stud, when required, shall conform to the requirements of ASTM A 449.”

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Department of Transportation

SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1094. OVERHEAD SIGN STRUCTURES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1094.03 Anchor Rods, Nuts and Washers. Add the following paragraph to this Article:

“Anchor bolts and rods, nuts and washers conforming to AASHTO M 314 or ASTM F1554 shall satisfy the applicable specification for the grade specified and the supplemental Charpy V-Notch (CVN) toughness requirements specified herein. Grade 250 (Grade 36) and Grade 380 (Grade 55) anchor bolts and rods shall satisfy Supplemental Requirement S4 and Table S1.1 of ASTM F1554. Grade 725 (Grade 105) anchor bolts and rods shall satisfy Supplemental Requirement S5 and Table S1.2 of ASTM F1554.”

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SUPPLEMENTAL SPECIFICATION
FOR
SECTION 1103. PORTLAND CEMENT CONCRETE EQUIPMENT

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be construed to be a part thereof, superceding any conflicting provisions thereof applicable to the work under the contract.

1103.03 Automatic and Semi-Automatic Batching Equipment. Add the following paragraph after the first paragraph of Article 1103.03(a)(4):

“The dispenser’s visual indicator shall be easily viewed by the plant operator when batching. Televised images may be used.”

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STATE REQUIRED CONTRACT PROVISIONS ALL FEDERAL-AID CONSTRUCTION CONTRACTS

Effective: February 1, 1969
Revised: October 1, 1983

The following provisions are State of Illinois requirements and are in addition to the Federal requirements contained in Form PR-1273.

"EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future Contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

During the performance of this contract, the Contractor agrees as follows:

- (1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (according to the Department's Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service.

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- (4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- (5) That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (6) That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (7) That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that such provisions will be binding upon such Subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by such Subcontractors; and further it will promptly notify the contracting agency and the Illinois Department of Human Rights in the event any Subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any Subcontractor declared by the Illinois

Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations."

"SUBLETTING OR ASSIGNING THE CONTRACT

The requirements of Section VII of PR-1273 are hereby made applicable to Secondary Road Plan Projects."

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR SUBLETTING OF CONTRACTS (FEDERAL AID CONTRACTS)

Effective: January 1, 1988
Revised: May 1, 1993

This Special Provision supersedes paragraph VII of Form FHWA 1273, Required Contract Provisions Federal-aid Construction Contracts.

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the contract or contracts or any portion thereof, or of his/her right, title or interest therein, without written consent of the Engineer. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with the Contractor's own organization, work amounting to not less than 50 percent of the total contract cost, except any items designated in the contract as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his/her own organization. Materials purchased or produced by the Contractor must be incorporated into the project by the Contractor's own organization if their cost is to be applied to the 50 percent requirement.

No subcontracts, or transfer of contract, shall in any case release the Contractor of his/her liability under the contract and bonds. All transactions of the Engineer will be with the Contractor. The Contractor shall have a representative on the job at all times when either contract or subcontract work is being performed.

All requests to subcontract shall contain a certification the subcontract agreement exists in writing and physically contains the required Federal and State Equal Employment Opportunity provisions and Labor compliance provisions, including the contract minimum wage requirements. The Contractor shall permit Department or Federal representatives to examine the subcontract agreements upon notice.

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State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
EEO

Effective: July 21, 1978
Revised: November 18, 1980

The requirements of the following provisions written for federally-assisted construction contracts, including all goals and timetables and affirmative action steps, shall also apply to all State-funded construction contracts awarded by the Illinois Department of Transportation.

Notice of Requirement for Affirmative Action to Ensure
Equal Employment Opportunity (Executive Order 11246)

- 1. The offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- 2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

APPENDIX A

The following goal for female utilization in each construction craft and trade shall apply to all contractors holding federal and federally-assisted construction contracts and subcontracts in excess of \$10,000. The goal is applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally assisted or nonfederally related construction contract or subcontract.

Area Covered (Statewide)

Goals for Women apply nationwide.

GOAL	Goal (percent)
Female Utilization	6.9

APPENDIX B

Until further notice, the following goals for minority utilization in each construction craft and trade shall apply to all contractors holding federal or federally-assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally-assisted or nonfederally related construction contract or subcontract.

	<u>Economic Area</u>	Goal (percent)
056	Paducah, KY: Non - SMSA Counties - IL - Hardin, Massac, Pope KY - Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall	5.2
080	Evansville, IN: Non-SMSA Counties IL - Edwards, Gallatin, Hamilton, Lawrence, Saline, Wabash, White IN - Dubois, Knox, Perry, Pike, Spencer KY - Hancock, Hopkins, McLean, Mublenberg, Ohio, Union, Webster	3.5
081	Terre Haute, IN: Non-SMSA Counties - IL - Clark, Crawford KY - Parke	2.5
083	Chicago, IL SMSA Counties: 1600 Chicago, IL - IL - Cook, DuPage, Kane Lake, McHenry, Will 3740 Kankakee, IL - IL - Kankakee Non-SMSA Counties - IL - Bureau, DeKalb, Grundy, Iroquois, Kendall, LaSalle, Livingston, Putnam IN - Jasper, Laporte, Newton, Pulaski, Starke	19.6 9.1 18.4

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084	Champaign - Urbana, IL:	
	SMSA Counties:	
	1400 Champaign - Urbana - Rantoul, IL -	7.8
	IL - Champaign	
	Non-SMSA Counties -	4.8
	IL - Coles, Cumberland, Douglas	
	Edgar, Ford, Piatt, Vermilion	
085	Springfield - Decatur, IL:	
	SMSA Counties:	
	2040 Decatur, IL -	7.6
	IL - Macon	
	7880 Springfield, IL -	4.5
	IL - Menard, Sangamon	
	Non-SMSA Counties	
	IL -Cass, Christian, DeWitt, Logan,	4.0
	Morgan, Moultrie, Scott, Shelby	
086	Quincy, IL:	
	Non-SMSA Counties -	3.1
	IL - Adams, Brown, Pike	
	MO - Lewis, Marion, Pike Rails	
087	Peoria, IL:	
	SMSA Counties:	
	1040 Bloomington - Normal, IL -	2.5
	IL - McLean	
	6120 Peoria, IL -	4.4
	IL - Peoria, Tazewell, Woodford	
	Non-SMSA Counties -	3.3
	IL - Fulton, Knox, McDonough, Marshall,	
	Mason, Schuyler, Stark, Warren	
088	Rockford, IL:	
	SMSA Counties:	
	6880 Rockford, IL -	6.3
	IL - Boone, Winnebago	
	Non-SMSA Counties -	4.6
	IL - Lee, Ogle, Stephenson	
098	Dubuque, IA:	
	Non-SMSA Counties -	0.5
	IL - JoDavie	
	IA - Atlamakee, Clayton, Delaware,	
	Jackson, Winnesheik	
	WI - Crawford, Grant, Lafayette	

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099	Davenport, Rock Island, Moline, IA - IL: SMSA Counties: 1960 Davenport, Rock Island, Moline, IA - IL - 4.6 IL - Henry, Rock Island IA – Scott Non-SMSA Counties - 3.4 IL - Carroll, Hancock, Henderson, Mercer, Whiteside IA - Clinton, Des Moines, Henry, Lee, Louisa, Muscatine MO – Clark
107	SMSA Counties: 7040 St. Louis, MO - IL - 14.7 IL - Clinton, Madison, Monroe, St. Clair MO - Franklin, Jefferson, St. Charles, St. Louis, St. Louis City Non-SMSA Counties - 11.4 IL - Alexander, Bond, Calhoun, Clay, Effingham, Fayette, Franklin, Greene, Jackson, Jasper, Jefferson, Jersey, Johnson, Macoupin, Marion, Montgomery, Perry, Pulaski, Randolph, Richland, Union, Washington, Wayne, Williamson MO - Bollinger, Butler, Cape Girardeau, Carter, Crawford, Dent, Gasconade, Iron, Lincoln, Madison, Maries, Mississippi, Montgomery, Perry, Phelps, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Warren, Washington, Wayne

These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally-assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with Executive Order 11246 and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the provisions and specifications set forth in its federally assisted contracts, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform

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throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246 and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Illinois Department of Transportation will provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of any construction contract and/or subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. This notification will list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the entire State of Illinois for the goal set forth in APPENDIX A and the county or counties in which the work is located for the goals set forth in APPENDIX B.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - (a) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - (b) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - (c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - (d) "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

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- (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- 2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individual or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan.

Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

- 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal Procurement contracting officers. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

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5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the Union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

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- d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and

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employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the

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group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specified minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellations of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

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14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade rate of pay and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

State of Illinois
Department of Transportation

**SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
NONFEDERAL-AID CONTRACTS**

Effective: March 20, 1969

Revised: January 1, 1994

1. General

- a. The requirements set forth herein shall constitute the specific affirmative action requirements under this contract and supplement the non-discrimination requirements contained elsewhere in this proposal.
- b. The Contractor shall work with the Illinois Department of Transportation (IDOT) in carrying out Equal Employment Opportunity (EEO) obligations and in reviews of activities under the contract.
- c. The Contractor, and all Subcontractors holding subcontracts (not including material suppliers) of \$10,000 or more, shall comply with the following minimum specific requirement activities of EEO. The Contractor shall include these requirements in every subcontract of \$10,000 or more with such modification of language as is necessary to make them binding on the Subcontractor.

2. Equal Employment Opportunity Policy

The Contractor shall accept as operating policy the following statement which is designed to further the provision of EEO to all persons, and to promote the full realization of equal employment opportunity through a positive continuing program: "It is the policy of this Company to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age, or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

3. Equal Employment Opportunity Officer

The Contractor shall designate and make known to IDOT contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active Contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

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4. Dissemination of Policy

- a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the Contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - (1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the Contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the Contractor's EEO obligations within thirty days following their reporting for duty with the Contractor.
 - (3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the Contractor's procedures for locating and hiring minority and female employees.
- b. In order to make the Contractor's EEO policy known to all employees, prospective employees, and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor shall take the following actions:
 - (1) Notices and posters setting forth the Contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - (2) The Contractor's EEO policy and the procedures to implement such policy shall be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. Recruitment

- a. When advertising for employees, the Contractor shall include in all advertisements for employees the notation: "An Equal Opportunity Employer". All such advertisements shall be published in newspapers, or other publications, having a large circulation among minority groups in the area from which the project work force would normally be derived.

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- b. The Contractor shall, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants, including, but not limited to, State employment agencies, schools, colleges and minority and female organizations. To meet this requirement, the Contractor shall, identify sources of potential minority and female employees, and establish with such identified sources procedures whereby minority and female applicants may be referred to the Contractor for employment consideration. In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with EEO contract provisions.
- c. The Contractor shall encourage present employees to refer minority and female applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority and female applicants shall be discussed with employees.

6. Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, will be taken without regard to race, color, religion, sex, national origin, age, or disability. The following procedures shall be followed:

- a. The Contractor shall conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- b. The Contractor shall periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The Contractor shall periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor shall promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The Contractor shall promptly investigate all complaints of alleged discrimination made to the Contractor in connection with the obligations under this contract, shall attempt to resolve such complaints, and shall take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the

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complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor shall inform every complainant of all of the avenues of appeal.

7. Training and Promotion

- a. The Contractor shall assist in locating, qualifying and increasing the skills of minority and female employees and applicants for employment.
- b. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the Contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance.
- c. The Contractor shall advise employees and applicants for employment of available training programs and entrance requirements for each.
- d. The Contractor shall periodically review the training and promotion potential of minority and female employees and shall encourage eligible employees to apply for such training and promotion.

8. Unions

If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor shall use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minorities and females within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Contractor, either directly or through a Contractor's association acting as agent, shall include the procedures set forth below:

- a. The Contractor shall use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority and female employees for membership in the unions and increasing the skills of minority and female employees so that they may qualify for higher paying employment.
- b. The Contractor shall use best efforts to incorporate an EEO clause into each union agreement to the end that such union shall be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age, or disability.
- c. The Contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to IDOT and shall set forth what efforts have been made to obtain such information.

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- d. In the event the union is unable to provide the Contractor with a reasonable flow of minority and female referrals within the time limit set forth in the collective bargaining agreement, the Contractor shall, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and females. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minorities or female employees). In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to these Special Provisions, such Contractor shall immediately notify IDOT.

9. Selection of Subcontractors, Procurement of Materials, and Leasing of Equipment

The Contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age, or disability in the selection and retention of Subcontractors, including procurement of materials and leases of equipment.

- a. The Contractor shall notify all potential Subcontractors and suppliers of his/her EEO obligations under this contract.
- b. Disadvantaged business enterprises (DBE), as defined in 49 CFR Part 23, shall have equal opportunity to compete for and perform subcontracts which the Contractor enters into pursuant to this contract. The Contractor shall use best efforts to solicit bids from and to utilize DBE Subcontractors or Subcontractors with meaningful minority and female representation among their employees. Contractors shall obtain lists of DBE construction firms from IDOT personnel.
- c. The Contractor shall use his/her best efforts to ensure Subcontractor compliance with their EEO obligations.

10. Records and Reports

The Contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of IDOT.

- a. The records kept by the Contractor shall document the following:
 - (1) the number of minorities, non-minorities and females employed in each work classification on the project;

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- (2) the progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and females;
 - (3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - (4) the progress and efforts being made in securing the services of DBE Subcontractors, or Subcontractors with meaningful minority and female representation among their employees.
- b. The Contractor shall submit to IDOT a monthly report every month for the duration of the project, indicating the number of minority, non-minority and female employees currently engaged in each work classification required by contract work and the number of hours worked. This information is to be reported on Form SBE-956. If on-the-job training is being required by special provision, the Contractor will be required to collect and report training data.

State of Illinois
Department of Transportation

REQUIRED PROVISIONS - STATE CONTRACTS

Effective: April 1, 1965
Revised: April 1, 1993

I. SELECTION OF LABOR

The Contractor shall comply with all Illinois statutes pertaining to the selection of labor.

**EMPLOYMENT OF ILLINOIS WORKERS DURING PERIODS OF
EXCESSIVE UNEMPLOYMENT**

Whenever there is a period of excessive unemployment in Illinois, which is defined herein as any month immediately following two consecutive calendar months during which the level of unemployment in the State of Illinois has exceeded five percent as measured by the United States Bureau of Labor Statistics in its monthly publication of employment and unemployment figures, the Contractor shall employ only Illinois laborers. "Illinois laborer" means any person who has resided in Illinois for at least 30 days and intends to become or remain an Illinois resident.

Other laborers may be used when Illinois laborers as defined herein are not available, or are incapable of performing the particular type of work involved, if so certified by the Contractor and approved by the Engineer. The Contractor may place no more than three of his/her regularly employed non-resident executive and technical experts, who do not qualify as Illinois laborers, to do work encompassed by this Contract during period of excessive unemployment.

This provision applies to all labor, whether skilled, semi-skilled or unskilled, whether manual or non-manual.

II. EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future Contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation.

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During the performance of this contract, the Contractor agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
2. That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
3. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service.
4. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
5. That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
6. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
7. That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that such provisions will be

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binding upon such Subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by such Subcontractors; and further it will promptly notify the contracting agency and the Illinois Department of Human Rights in the event any Subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any Subcontractor declared by the Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

III. SUBLETTING OR ASSIGNING THE CONTRACT

1. The Contractor shall perform with his/her own organization contract work amounting to not less than 50 percent of the original total contract price, except that any items designated by the State as "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the original total contract price before computing the amount of work required to be performed by the Contractor with his/her own organization.
 - a. "His/her own organization" shall be construed to include only worker employed and paid directly by the Contractor and equipment owned or rented by him/her, with or without operators.
 - b. "Specialty Items" shall be construed to be limited to work that requires specialized knowledge, craftsmanship or equipment not ordinarily available in contracting organizations qualified to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. In addition to the 50 percent requirement set forth in paragraph 1 above, the Contractor shall furnish (a) a competent superintendent or foreman who is employed by him/her, who has full authority to direct performance of the work in accordance with the contract requirements, and who is in charge of all construction operations (regardless of who performs the work), and (b) such other of his/her own organizational capability and responsibility (supervision, management, and engineering services) as the State highway department contracting officer determines is necessary to assure the performance of the contract.
3. The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof, or of his/her right, title or interest therein, without written consent of the Engineer. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with the Contractor's own organization, work amounting to not less than 50 percent of the total contract cost, except that any items designated in the contract as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by

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subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his/her own organization. Materials purchased or produced by the Contractor must be incorporated into the project by the Contractor's own organization if their cost is to be applied to the 50 percent requirement.

No subcontracts, or transfer of contract, shall in any case release the Contractor of his/her liability under the contract and bonds. All transactions of the Engineer shall be with the Contractor. The Contractor shall have representative on the job at all times when either contract or subcontract work is being performed.

All requests to subcontract shall contain a certification that the subcontract agreement exists in writing and physically contains the required Federal and State Equal Employment Opportunity provisions and Labor compliance provisions, including the contract minimum wage requirements. The contractor shall permit Department or Federal representatives to examine the subcontract agreements upon notice.

4. Any items that have been selected as "Specialty Items" for the contract are listed as such in the Special Provisions, bid schedule, or elsewhere in the contract documents.
5. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the State highway department contracting officer, or his/her authorized representative, and such consent when given shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract. Request for permission to sublet, assign or otherwise dispose of any portion of the contract shall be in writing and accompanied by (a) a showing that the organization which will perform the work is particularly experienced and equipped for such work, and (b) an assurance by the Contractor that the labor standards provisions set forth in this contract shall apply to labor performed on all work encompassed by the request.

IV. COMPLIANCE WITH PREVAILING WAGE LAW

1. All wages paid by the Contractor and Subcontractors shall be in compliance with "AN ACT regulating wages of laborers, mechanics and workers employed in any public works by the state, county, city or any public body or any political subdivision or by any one under contract for public works", approved June 26, 1941, as amended, except that where a prevailing wage violates a Federal law, order, or ruling, the rate conforming to the Federal law, order, or ruling shall govern. The Contractor shall be responsible to notify each Subcontractor of the wage rates set forth in this contract and any revisions thereto. If the Department of Labor revises the wage rates, the Contractor shall not be allowed additional compensation on account of said revisions.

2. The Department may require the submission by the Contractor of payroll records or copies thereof. Further, the Contractor may be required to make his/her payroll records available at the project site for inspection. Whether the payrolls or copies are submitted or not, each Contractor and Subcontractor shall preserve his/her weekly payroll records for a period of three years from the date of completion of this contract. The payroll records shall contain the name, address and social security number of each employee, his/her correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.
3. The Contractor shall permit his/her employees to be interviewed during working hours on the job by compliance investigators of the Department or the Department of Labor. The Contractor shall submit a certificate of compliance with the aforementioned Act upon completion of the contract. The Contractor may use BC Form 749 for submission of this statement.

V. NONSEGREGATED FACILITIES

(Applicable to State Financed Construction Contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity clause).

By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement, as appropriate, the bidder, construction contractor, subcontractor, or material supplier, as appropriate, certifies that (s)he does not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that (s)he does not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. (S)He certifies further that (s)he will not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that (s)he will not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. (S)He agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. (S)He agrees that (except where he/she has obtained identical certifications from proposed Subcontractors and material suppliers for specific time periods), he/she will obtain identical certifications from proposed subcontractors or material suppliers prior to the award of subcontracts or the consummation of material supply agreements, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that (s)he will retain such certifications in his/her files.

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Reserved

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
ASPHALT QUANTITIES AND COST REVIEWS

Effective: July 1, 1988

By submission of a bid on this project, the Contractor agrees to allow consultants, retained by the Department, to examine financial records pertaining to the quantity and cost of paving grade asphalt cement delivered to the firm during the month prior to the review. Such records considered as necessary for this review will be limited to vendor bills of lading, vendor invoices, customer purchase orders (if any), and purchase journal entries relating to asphalt purchases.

The consultants will review records of a randomly-selected sample of 15 firms each month.

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State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM PERMIT

Effective: July 1, 1994
Revised: January 1, 2003

This work shall be done according to the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Site Activities, NPDES Permit # ILR10.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
HAUL ROAD STREAM CROSSINGS, OTHER TEMPORARY
STREAM CROSSINGS AND IN-STREAM WORK PADS**

Effective: January 2, 1992
Revised: January 1, 1998

Haul Road and Other Temporary Stream Crossings. A temporary low flow structure such as a pipe culvert shall be installed at haul road and other temporary stream crossings. The haul road shall be constructed with materials (i.e., coarse aggregate) meeting the requirements of Article 1004.04 of the Standard Specifications, except, if pit run gravel is used, prior approval of the source may be required by the Engineer. Upon completion of the work, the haul road or other temporary stream crossing shall be removed and the stream channel returned to its original cross section or the cross section called for in the plans.

The Contractor may propose other methods of constructing the stream crossing to the Department of Natural Resources and, if approved by them, the Contractor may proceed with that method.

In-Stream Work Pads. All in-stream work pads shall be constructed with materials (i. e., coarse aggregate) meeting the requirements of Article 1004.04 of the Standard Specifications, except, if pit run gravel is used, prior approval of the source may be required by the Engineer. In cases where the work pad will span the stream, a temporary low flow structure such as a pipe culvert shall be installed. Upon completion of the work, the in-stream work pads shall be removed and the stream channel returned to its original cross section or the cross section called for in the plans.

The Contractor may propose other methods of constructing the work pads to the Department of Natural Resources, and if approved by them, the Contractor may proceed with that method.

Method of Measurement and Basis of Payment. Haul Roads and Other Temporary Stream Crossings or In-Stream Work Pads will not be measured nor paid for separately but shall be considered as included in the unit cost of the various pay items in the contract.

The salvaged aggregates and pipe culverts used in the Haul Roads and Other Temporary Stream Crossings or In-Stream Work Pads shall remain the property of the Contractor but may be used in construction if approved by the Engineer.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR CONSTRUCTION LAYOUT STAKES EXCEPT FOR BRIDGES

Effective: January 1, 1999

Revised: January 1, 2002

Description. The Contractor shall furnish and place construction layout stakes for this project. The Department will provide adequate reference points to the centerline of survey and bench marks as shown in the plans and listed herein. Any additional control points set by the Department will be identified in the field to the Contractor and all field notes will be kept in the office of the Resident Engineer.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout for the roadway portion of the work. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 15 m (50 ft) to assure substantial conformance to plan line and grade. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract nor to determine property lines between private properties.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his/her expense when any are damaged, lost, displaced, removed, or otherwise obliterated.

Responsibility of the Department.

- (a) The Department will be responsible for all bridge staking as shown on the plans.
- (b) The Department will locate and reference the centerline of all roads and streets except interchange ramps. The centerline of private entrances and short street intersection returns may not be located or referenced by the Department. Locating and referencing the centerline of survey will consist of establishing and locating the control points of the centerline of surveys as PC's, PT's and as many POT's as are necessary to provide a line of sight.

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- (c) Bench marks will be established along the project outside of construction lines not exceeding 300 m (1000 ft) intervals horizontally and 6 m (20 ft) vertically.
- (d) Points set for (b) and (c) above will be identified in the field to the Contractor.
- (e) The Department will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.
- (f) The Department will set all stakes for utility adjustments and for building fences along the right of way line by parties other than the Contractor.
- (g) The Department will make all measurements and take all cross sections from which the various pay items will be measured.
- (h) Where the Contractor, in setting construction stakes, discovers discrepancies, the Department will check to determine their nature and make whatever revisions are necessary in the plans, including the recross sectioning of the area involved. Any additional restaking required by the Engineer will be the responsibility of the Contractor. The additional restaking done by the Contractor will be paid for according to Article 109.04 of the Standard Specifications.
- (i) The Department will accept responsibility for the accuracy of the initial control points as provided herein.
- (j) It is not the responsibility of the Department, except as provided herein, to check the correctness of the Contractor's stakes. Any apparent errors will be immediately called to the Contractor's attention and s(he) will be required to make the necessary correction before the stakes are used for construction purposes. The Contractor shall provide the Engineer a copy of any field notes, cut/fill sheets, and layout diagrams produced during the course of the project.
- (k) Where the plan quantities for excavation are to be used as the final pay quantities, the Department will make sufficient checks to determine if the work has been completed in conformance with the plan cross sections.

Responsibility of the Contractor.

- (a) The Contractor shall establish from the given survey points and bench marks all the control points necessary to construct the individual project elements. (S)He shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade

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stakes, line and grade nails in form work, and/or filed or etched marks in substantially completed construction work. It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.

- (b) At the completion of the grading operations, the Contractor shall set stakes at 25 m (100 ft) station intervals along each profile grade line. These stakes will be used for final cross sectioning by the Department.
- (c) The Contractor shall locate the right of way points for the installation of right of way markers. The Contractor shall set all line stakes for the construction of fences by the Contractor.
- (d) All work shall be according to normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Department at the completion of the project. All notes shall be neat, orderly, and in accepted form.

Measurement and Payment. This item will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
CONSTRUCTION LAYOUT STAKES**

Effective: May 1, 1993
Revised: January 1, 2002

The Contractor shall furnish and place construction layout stakes for this project. The Department will provide adequate reference points to the centerline of survey and bench marks as shown in the plans and listed herein. Any additional control points set by the Department will be identified in the field to the Contractor and all field notes will be kept in the office of the Resident Engineer.

The Contractor shall provide field forces, equipment, and material to set all additional stakes for this project, which are needed to establish offset stakes, reference points, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout of the work. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 15 m (50 ft) to assure substantial conformance to plan line and grade. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract nor to determine property lines between private properties.

The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the Department Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his/her expense when any are damaged, lost, displaced, or removed or otherwise obliterated.

Responsibility of the Department.

- (a) The Department will locate and reference the centerline of all roads and streets except interchange ramps. The centerline of private entrances and short street intersection returns may not be located or referenced by the Department.

Locating and referencing the centerline of survey will consist of establishing and referencing the control points of the centerline of surveys such as PC's, PT's and as many POT's as are necessary to provide a line of sight.

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- (b) Bench marks will be established along the project outside of construction lines not exceeding 300 m (1,000 ft) intervals horizontally and 6 m (20 ft) vertically.
- (c) Stakes set for (a) and (b) above will be identified in the field to the Contractor.
- (d) The Department will make random checks of the Contractor's staking to determine if the work is in conformance with the plans. Where the Contractor's work will tie into work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.
- (e) The Department will set all stakes for utility adjustments and for building fences along the right of way line by parties other than the Contractor.
- (f) The Department will make all measurements and take all cross sections from which the various pay items will be measured.
- (g) Where the Contractor, in setting construction stakes, discovers discrepancies, the Department will check to determine their nature and make whatever revisions are necessary in the plans, including the recross sectioning of the area involved. Any additional restaking required by the Engineer will be the responsibility of the Contractor. The additional restaking done by the Contractor will be paid for according to 109.04 of the Standard Specifications.
- (h) The Department will accept responsibility for the accuracy of the initial control points as provided herein.
- (i) It is not the responsibility of the Department, except as provided herein, to check the correctness of the Contractor's stakes; any errors apparent will be immediately called to the Contractor's attention and s(he) shall make the necessary correction before the stakes are used for construction purposes.
- (j) Where the plan quantities for excavation are to be used as the final pay quantities, the Department will make sufficient checks to determine if the work has been completed in conformance with the plan cross sections.

Responsibility of the Contractor.

- (a) The Contractor shall establish from the given survey points and bench marks all the control points necessary to construct the individual project elements. S(he) shall provide the Engineer adequate control in close proximity to each individual element to allow adequate checking of construction operations. This includes, but is not limited to, line and grade

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stakes, line and grade nails in form work, and or/filed or etched marks in substantially completed construction work. It is the Contractor's responsibility to tie in centerline control points in order to preserve them during construction operations.

- (b) At the completion of the grading operations, the Contractor shall set stakes at 25 m (100 ft) Station intervals along each profile grade line. These stakes will be used for final cross sectioning by the Department.
- (c) The Contractor shall locate the right of way points for the installation of right of way markers. The Contractor shall set all line stakes for the construction of fences by the Contractor.
- (d) All work shall be according to normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the Department at the completion of the project. All notes shall be neat, orderly and in accepted form.
- (e) For highway structure staking, the Contractor shall use diligent care and appropriate accuracy. Points shall be positioned to allow reuse throughout the construction process. Prior to the beginning of construction activities, all structure centerlines and pier lines are to be established by the Contractor and checked by the Engineer. The Contractor shall provide a detailed structure layout drawing showing span dimensions, staking lines and offset distances.

Measurement and Payment. This item will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT.

CHECK SHEET #12

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
USE OF GEOTEXTILE FABRIC FOR
RAILROAD CROSSING

Effective: January 1, 1995
Revised: January 1, 1997

Description. This work shall consist of furnishing and installing geotextile fabric for railroad crossings.

Materials. The geotextile fabric shall consist of woven monofilaments or nonwoven filaments of polypropylene, polyester or polyethylene. Nonwoven fabric may be needlepunched, heat bonded, resin-bonded or combinations thereof. The fabric shall be inert to commonly encountered chemicals, rot proof, dimensionally stable (i.e., fibers must maintain their relative position with respect to each other), resistant to delamination and conform to the following physical properties.

Weight g/mm (oz/sq yd)	340 (10.0) min	ASTM D 3776
Grab Tensile Strength kN(lb) ¹	1.11 (250) min	ASTM D 4632
Grab Elongation at break %	20 min	ASTM D 4632
Bursting Strength kPa(psi)	2410 (350) min	ASTM D 3786
Trapezoidal Tear Strength kN(lb)	0.44 (100) min	ASTM D 4533
Puncture Strength kN(lb)	0.59 (130) min	ASTM D 4833
Apparent Opening Size Sieve No.	300 µm-150 µm (50-100)	ASTM D 4751
U.V. Resistance, Strength Retained %	70 min	ASTM D 4355

¹ Test samples for grab tensile strength and elongation shall be tested wet.

The vendor shall furnish certified test reports with each shipment of material attesting that the fabric meets the requirements of this specification.

CONSTRUCTION REQUIREMENTS

Handling and Storage. Fabric shall be delivered to the job site in such a manner as to facilitate handling and incorporation into the work without damage. In no case shall the fabric be stored exposed to direct sunlight.

Installation. Geotextile fabric shall be placed on existing subgrade cleared of debris and sharp objects to prevent damage to the fabric. All laps shall be a minimum 300 mm (12 in.). The fabric shall not be punctured during compaction of the ballast.

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Method of Measurement. Geotextile Fabric will be measured for payment in place and the area computed in square meters (square yards). The overlaps joints will be measured as a single layer of material.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for GEOTEXTILE FABRIC FOR RAILROAD CROSSING.

CHECK SHEET #13

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
ASPHALTIC EMULSION SLURRY SEAL AND
FIBRATED ASPHALTIC EMULSION SLURRY SEAL

Effective: August 1, 1989
Revised: February 1, 1997

Description. This item shall consist of a mixture of emulsified asphalt, aggregate and either water alone or water modified by the addition of a polypropylene fiber-water suspension, properly proportioned and applied on a prepared underlying course or existing wear course, according to these specifications, and as directed by the Engineer.

Materials. Material shall be according to the following Articles of Section 1000 - Materials of the Standard Specifications:

Item	Article/Section
(a) Fine Aggregate (Note 1)	1003.01
(b) Coarse Aggregate (Note 2).....	1004.01
(c) Mineral Filler (Note 3)	1011
(d) Water	1002

Note 1. The fine aggregate shall be Class B quality or better and shall be limited to stone sand, stone screenings, chats, or slag sand.

Note 2. The coarse aggregate shall be Class B quality or better and shall be limited to crushed stone, crushed slag, or chats.

Note 3. Type I portland cement meeting the requirements of Section 1001 of the Standard Specifications may be used as mineral filler to control the breaking time of the asphalt emulsion in the slurry seal mixture. The quantity of portland cement shall not exceed 25 percent of the aggregate gradation passing the 150 mm (No. 100) sieve.

The residual asphalt content in the slurry seal mixtures; the amount of aggregate in kg/sq m (lb/sq yd) in the as-placed slurry seal; and the aggregate gradations which are a blend of coarse aggregate where necessary, fine aggregate, and mineral filler where necessary for the Types II, III and IV slurry mixture shall be as follows:

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	Percent Passing		
	Type II	Type III	Type IV
12.5 mm (1/2 in.) Sieve	100	100	100
9.5 mm (3/8 in.) Sieve	100	100	92+8
4.75 mm (No. 4) Sieve	95+5	80+10	73+13
2.0 mm (No. 10) Sieve	72+13	52+12	46+9
1.8 mm (No. 16) Sieve	57+13	39+11	36+9
300µm (No. 50) Sieve	24+6	18+6	18+6
150 µm (No. 100) Sieve	15+5	13+6	12+4
75 µm (No. 200) Sieve	10+5	10+5	6+2
Asphalt Content (residual) % Dry Aggregate	7.5-13.5	6.5-12	5.5-7.5
Aggregate Spread Quantity kg/sq m (lb/sq yd)	8.1+ (15+2)	9.2+1.6 (17+3)	13.5+2.7 (25+5)

Fiber-Water Suspension. If a Fibrated Asphaltic Emulsion Slurry Seal is specified, the fiber shall be incorporated into a fiber-water suspension before introduction into the slurry seal mixture. The fiber-water suspension shall consist of 93.4 percent by mass (weight) water, 6.0 percent fiber, and 0.6 percent suspending agents. Equal parts by mass (weight) (0.3 percent each by mass (weight) of the fiber-water suspension) of the following two suspending agents have been used successfully. Others may be used if they are successful in mixing the fibers into the slurry with no detrimental effects upon the cured slurry seal. The two suspending agents are: Natrasol hydroxethylcellulose 250-HHD, and Cellulose Gum CMC Type 7H4F.

The fiber-water suspension shall be added to the slurry seal mixture to yield a concentration of 0.3 percent to 0.5 percent of dry fiber based on the mass (weight) of aggregate.

The fiber shall be short-cut polypropylene fibers. A certificate from the supplier showing the fibers meet the physical properties listed below shall be required.

Length	10 + 2 mm
Denier	15 + 1
Crimps	None
Tensile Strength	275,000 kPa (40,000 psi), minimum
Specific Gravity	0.91 (typical)
Moisture Regain @ 21 °C (70 °F) and 65% RH	0.1 (typical)

Asphalt Emulsion. The asphalt emulsion for use in slurry seal mixtures shall be Cationic Emulsified Asphalt either CSS-1 or CSS-1h meeting the requirements of Article 1009.07 of the Standard Specifications.

Tack Coat. The tack coat, if used, shall consist of one part of emulsified asphalt and two to three parts water, depending on the condition of the underlying surface. The same type and grade of asphalt emulsion shall be used in the tack coat as was used to make the slurry seal, unless otherwise directed by the Engineer.

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Equipment. The equipment needed in the performance of the work shall be provided by the Contractor; it shall be subject to approval by the Engineer and shall be maintained in satisfactory working condition at all times.

Mixing Machine. The slurry mixing and application machines shall be a self-propelled continuous flow unit capable of accurately delivering a predetermined proportion of aggregate, water, and asphalt emulsion to the mixing chamber and to discharge the thoroughly mixed product on a continuous basis. The machine shall be capable of prewetting and/or pretreating the aggregate prior to mixing with the emulsion, and thoroughly blending all ingredients together. No violent mixing shall be permitted. All proportioning devices shall be calibrated prior to placing slurry seal, or as directed by the Engineer.

Mixing Machine For Large Jobs. If the slurry seal work contains more than 84,000 sq m (100,000 sq yd), a continuous self-propelled mixing machine meeting the following requirements shall be used. This machine will not be required for fibrated asphaltic emulsion slurry seal. The equipment shall be a self-propelled mixing machine which shall be a continuous flow mixing unit able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral filler and water to a revolving multi-blade mixer and discharge the thoroughly-mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral filler and water to maintain an adequate supply to the proportioning control. The machine shall be equipped with self-loading devices which provide for the loading of all materials while continuing to lay slurry seal, thereby eliminating unnecessary construction joints.

Individual volume or mass (weight) controls for proportioning each material to be added to the mix shall be provided. Each material control device shall be calibrated and properly marked. They shall be accessible for ready calibration and so placed that the Engineer may determine the amount of each material used at any time.

The aggregate feed to the mixer shall be equipped with a revolution counter or similar device so the amount of aggregate used may be determined at any time.

The emulsion pump shall be the positive displacement type and shall be equipped with a revolution counter or similar device so the amount of emulsion used may be determined at any time.

The mixing machine shall be equipped with a water pressure system and nozzle type spray bar to provide a water spray immediately ahead of and outside the spreader box.

At the Contractor's option computerized weight and measuring devices may be used.

Fines Feeder. The mixing machine shall be equipped with a fines feeder that provides an accurate metering device or method to introduce a predetermined proportion of mineral filler into the mixer at the same time and location that the

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aggregate is fed. The fines feeder shall be used whenever mineral filler is a part of the aggregate blend.

Watering Equipment. The mixing machine shall be equipped with a water pressure system and fog-type spray bar adequate for complete fogging of the surface preceding the spreading equipment with a maximum application rate of 225 mL/sq m (0.05 gal/ sq yd).

Slurry Spreading Equipment. Attached to the mixer machine shall be a mechanical type squeegee distributor equipped with flexible material in contact with the surface to prevent loss of slurry from the distributor. It shall be maintained to prevent loss of slurry on varying grades and crown by adjustments to assure uniform spread. There shall be a lateral control device and a flexible strike-off capable of being adjusted to lay the slurry at the specified rates of application. The spreader box shall have an adjustable width. The box shall be kept clean, and built-up asphalt and aggregate on the box shall not be permitted. The use of burlap drags or other drags shall be approved by the Engineer.

Fiber-Water Suspension Mixing and Proportioning Equipment. The homogeneous fiber-water suspension shall be pre-mixed in a separate holding tank with a minimum capacity of 1.89 kL (500 gal) and equipped with a paddle type agitator to ensure a proper blending of the fiber. The slurry seal mixing machines shall be equipped with a hydraulic controlled delivery system to deliver the fiber-water suspension into the mixing chamber at the same time as the aggregate before the mix enters the spreader box. The fiber-water suspension proportioning system shall continuously deliver precise, pre-determined quantities into the mixing chamber.

Bituminous Distributor. The pressure distributor used for application of the diluted asphaltic emulsion tack coat shall be self-propelled, equipped with pneumatic tires, and capable of uniformly applying 225-9055 mL/sq m (0.05-2.0 gal/sq yd) of emulsion over the required width of application. Distributors shall be equipped with tachometers, pressure gauges and volume measuring devices.

Miscellaneous Equipment. Other tools or equipment shall be provided as required, such as brushes, hand squeegees, hose equipment, tank trucks, water distributors and flushers, power sweepers, power blowers, barricades, etc.

CONSTRUCTION REQUIREMENTS

Cleaning Existing Surface. Prior to placing the slurry seal coat, the surface to be treated shall be clean and free from dust, dirt, or other loose foreign matter, grease, oil or any type of objectionable surface film. When directed by the Engineer, the existing surface shall be swept with hand brooms or with power sweepers or cleaned with a power blower. When required, the pavement shall be flushed with pressure streams of water.

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Wetting Pavement Surface. Immediately prior to the application of the slurry seal, the surface to be treated and all crack faces shall be moistened with a fog spray of water, applied at the rate of 90 to 225 mL/sq m (0.02 to 0.05 gal/sq yd) from the spray bar on the slurry-seal machine. No free water shall be on the surface following the fog spray. The rate of application of the fog spray shall be adjusted during the day to suit surface temperature, surface texture, humidity, and dryness of the surface.

In lieu of wetting the surface, the Contractor may apply a tack coat of diluted emulsified asphalt to all surfaces to receive slurry seal treatment.

Tack Coat Application. After the surface has been prepared for the slurry seal and not more than two hours prior to application of the slurry seal, the tack coat shall be applied with a bituminous distributor at the rate of 680 ± 225 mL (0.15 ± 0.05 gal) of the diluted mixture per square meter (square yard) of surface. Proper barricades shall be used until the slurry seal is applied.

No additional compensation will be allowed for the tack coat.

Preparation of Slurry Seal. The slurry seal shall be mixed and applied with the slurry machine. The amount of asphalt emulsion to be blended with the aggregate shall be as outlined in Development of Job Mix Formula. A minimum amount of water, added as specified by the Engineer, shall be used as necessary to obtain a workable and homogenous mixture. The slurry mixture shall be of the proper consistency with no segregation when deposited on the surface. Total time of mixing shall not exceed two minutes.

Application of Slurry Seal. The slurry seal mixture shall be fed into the spreader in sufficient quantities so that a uniform and complete coverage is obtained. The slurry seal machine shall travel at such a speed that the slurry shall have a satisfactory appearance. Thickness of the slurry when measured over the typical surface should be approximately the maximum size of the aggregate being used. The slurry seal shall be applied in such a manner that the thickness will be not less than 3 mm (1/8 in.).

Joints. The longitudinal joint between adjacent lanes shall have no visible lap, pinholes or uncovered areas. Thick spots caused by overlapping shall be smoothed immediately with hand squeegees before the emulsion breaks. Overlaps which occur at transverse joints shall also be smoothed before the emulsion breaks, so that a uniform surface is obtained which contains no breaks or discontinuities.

Hand Application. Areas which cannot be reached with the slurry seal machine shall be individually treated with hand squeegees to provide complete and uniform coverage.

Maintaining Stability of Slurry Mixture. The slurry seal mixture shall possess sufficient stability so that premature breaking of the emulsion in the spreader box does not occur. The mixture shall be homogeneous following mixing and spreading, shall be free of bleeding of water or of the emulsion, and free of segregation of the

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emulsion and aggregate fines from the coarser aggregate fractions. No buildup of cured slurry seal mix shall be allowed to collect in the spreader. No streaks caused by oversize aggregate particles or buildup of slurry mix on the squeegees shall be left in the finished surface.

Curing. The surface may be opened to traffic as soon as it has cured sufficiently to prevent the material from being picked up by the wheels of vehicles passing over it.

Weather Limitations. Slurry seal shall be applied between May 1 and October 15, and when the air temperature is 7 °C (45 °F) in the shade and rising. No work shall be started if local weather conditions indicate rain is imminent.

Development of Job Mix Formula. It shall be the responsibility of the Contractor to submit to the Engineer a job mix formula prior to the start of the job. The job mix formula shall be developed in a qualified laboratory according to the procedures outlined by the Bureau of Materials and Physical Research.

A complete laboratory report outlining the amount of emulsion, amount and type of filler and minimum amount of water necessary for workability along with abraded and unabraded samples shall be submitted to the Engineer by the Contractor. The slurry seal mixture shall possess workability and stability properties consistent with application requirements. If it is later established a satisfactory mix cannot be produced from the materials and job mix formula furnished, the Contractor shall be required to furnish a new job mix formula.

Method of Measurement. The slurry seal will be measured in square meters (square yards) of surface completed and accepted.

Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for ASPHALTIC EMULSION SLURRY SEAL, TYPE II; ASPHALTIC EMULSION SLURRY SEAL, TYPE III; ASPHALTIC EMULSION SLURRY SEAL, TYPE IV; FIBRATED ASPHALTIC EMULSION SLURRY SEAL, TYPE II; FIBRATED ASPHALTIC SLURRY SEAL TYPE III; FIBRATED ASPHALT EMULSION SLURRY SEAL TYPE III; FIBRATED ASPHALT EMULSION SLURRY SEAL TYPE IV.

CHECK SHEET #14

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
BITUMINOUS SURFACE TREATMENTS
HALF-SMART

Effective: July 1, 1993
Revised: January 1, 1997

Description. This work shall consist of constructing a single surface treatment. All work shall be according to Section 403 of the Standard Specifications except as follows:

Materials.

Type of Construction	Bituminous Material	Application Rate		Aggregate	Application Rate	
		L/sq m	(gal/sq yd)		kg/sq m	(lb/sq yd)
A-1	HFP	0.68	(0.15)	FM-01 (Special)	5.5	(10)
A-1	HFP	0.68	(0.15)	FM-20 (Special)	5.5	(10)
A-1	HFP	0.86	(0.19)	CM-16 (Special)	7	(13)

AGGREGATE GRADATION

Sieve No.	FM-01 (Special)	Total Percent Passing FM-20 (Special)	CM-16 (Special)
9.5 mm (3/8 in.)	100	100	100
6.3 mm (1/4 in.)			98 \pm 2
4.75 mm (4)	97 \pm 3	97 \pm 3	65 \pm 20
2.36 mm (8)	85 \pm 15	70 \pm 20	10 \pm 10
1.18 mm (16)	40 \pm 15	40 \pm 15	5 \pm 5
300 μ m (50)	12 \pm 12	12 \pm 12	
150 μ m (100)	8 \pm 8	8 \pm 8	
75 μ m (200)	1.5 \pm 1	1.5 \pm 1	1.5 \pm 1
Description	Wet Bottom Boiler Slag	Crushed Gravel	Crushed Gravel

Note: The aggregate material and bituminous material used shall be as designated on the plans.

Equipment.

- (a) Rollers. The rollers shall be self-propelled pneumatic-tired rollers according to Article 1101.01(c) of the Standard Specifications.

The number of rollers required to keep up with the aggregate spreader will be shown on the plans or as directed by the Engineer.

- (b) Mechanical Sweepers. The mechanical sweepers shall be according to Article 1101.03 of the Standard Specifications except the mechanical sweepers shall be power driven and shall be either self propelled or pull type with the broom located between the axles. Broom rotation operated by forward movement is not satisfactory. A cantilever mounted broom on the mechanical sweeper is not acceptable.
- (c) Aggregate Spreader. The aggregate spreader shall be according to Article 1102.04 of the Standard Specifications except the aggregate spreader shall:
- (1) Be of the self-propelled mechanical type with the receiving hopper in the rear and shall pull the aggregate truck.
 - (2) Be equipped with a tachometer to assure constant operation at the speed which provides uniform application of the specified rate of aggregate.
 - (3) Have a width capable of covering the entire lane being treated in one pass.
 - (4) The operator of the aggregate spreader and the driver of the pressure distribution shall be in direct radio communication with each other at all times in order to control the time gap between respective operations.
- (d) Pressure Distributor. The pressure distributor shall be according to Article 1102.05 of the Standard Specification except:
- (1) The capacity of the distributor shall be a minimum of 5500 L (1500 gal).
 - (2) A pressure gauge plainly visible to the spray bar operator shall be conveniently placed to show the pressure at which the bituminous material is applied.
 - (3) A mercury dial or digital thermometer having the stem extending into the material or into an approved well shall be placed in a suitable position in the tank to give a true average temperature of the contents of the tank.
 - (4) Each nozzle in the spray bar shall be 3 mm (1/8 in.) orifice size nozzles. The nozzles shall be turned to make the same angle with the

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longitudinal axis of the spray bar as recommended by the manufacturer unless otherwise directed by the Engineer. Each nozzle shall also be replaced in the presence of the Engineer at the start of each project unless otherwise directed by the Engineer.

- (5) The spray bar height shall provide double or triple coverage of the fans of asphalt being applied by the nozzles as recommended by the manufacturer. The spray bar shall not vary more than 15 mm (1/2 in.) above or below.
- (6) The pressure distributor shall be able to spray asphalt within ± 7.5 percent of the average application rate in the longitudinal direction and within ± 10 percent of the average application rate in the transverse direction.
- (7) The pressure distributor shall be equipped with a synchronizer. The synchronizer shall deliver the specified quantity of bituminous material on the road surface regardless of the speed of the truck.
- (8) The pressure distributor shall be equipped with a drag made of a short-napped, astroturf type outdoor carpet material. The drag material shall be replaced at the beginning of each working day or when the drag produces streaking caused by aggregate or other contamination. The drag shall measure a minimum of 1.2 m (48 in.) in the direction of travel and shall be of sufficient width to completely cover the asphalt being applied. The drag material shall be attached to a rigid bar across the front of the drag and shall be attached to the distributor with chains of sufficient length to locate the front of the drag 1.8 to 3 m (6 to 10 ft) behind the spray bar. The point of attachment of the drag chains to the pressure distributor shall be such that a minimum of 600 mm (24 in.) of the drag material, as measured in the direction of travel, is maintained in contact with the asphalt being applied. If there are gaps between locations to be sealed, the drag shall be picked up at the end of each location and transported to the beginning of the next location to be sealed.
- (e) Aggregate Trucks. Each aggregate truck shall be equipped with a suitable hitch for connection to the aggregate spreader while unloading. The trucks shall be designated to avoid contact between the truck body or bed and the aggregate spreader. The body or bed of the truck shall be modified, if necessary, to empty cleanly and completely into the receiving hopper of the aggregate spreader. No aggregate shall be allowed to spill onto the road surface when the truck is emptying into this hopper.
- (f) Calibration. The working day prior to starting construction, the pressure distributor and aggregate spreader shall be calibrated and adjusted by the Contractor according to the manufacturer's recommendations and these Special Provisions. Should there be any conflict between the

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manufacturer's recommendations and these Special Provisions, the manufacturer's recommendations shall govern. At least three days prior to starting the work the Contractor shall provide the Engineer with a copy of the manufacturer's recommendations for the equipment to be used. All calibrations and adjustments shall be made in the presence of the Engineer on a level surface away from the job site at a location approved by the Engineer. The work shall not commence until all equipment is calibrated and adjusted as specified. The Contractor shall maintain proper calibration and adjustment of the equipment and the Engineer reserves the right to check application rates as the work progresses. Should the equipment fail to consistently apply the specified rates, the work shall be stopped and the Contractor shall recalibrate and readjust the equipment.

- (1) Pressure Distributor. Application rates shall be determined by the procedures listed in ASTM D 2995, except the sample may be taken on three 200 x 300 mm (8 in. x 12 in.) metal plates rather than on the larger plates as specified in the ASTM method. The three plates shall be positioned as directed by the Engineer.
- (2) Aggregate Spreader. The Engineer will check the spread roll of the aggregate spreader for straightness each day before operations begin. Should the surface of the spread roll vary off a straight line along its longitudinal dimension by more than 1.5 mm (1/16 in.), the Engineer will inspect the application of aggregate for corrugations and, should these occur, the machine shall be repaired or replaced. The forward speed of the spreader during calibration shall be the same as is to be used during construction. The equipment required for aggregate spreader calibration may consist of several sheets of canvas, each being exactly 0.8 sq m (1 sq yd), and a weight scale. By making several runs at different gate openings over the sheets of canvas, placed to cover the full width applied by the spreader, and carefully measuring the aggregate on each canvas sheet, the gate opening at the pre-established speed required to apply aggregate at the specified rate may be determined.

CONSTRUCTION REQUIREMENTS

Weather Limitations. This work shall be done between May 1 and August 31. Bituminous materials shall be applied only when the temperature of the air in the shade is above 20 °C (70 °F). No work shall be started if local conditions indicate that rain is imminent.

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This work may be done between September 1 and September 30 provided the following conditions are both met.

- (a) The temperature of the air in the shade is above 20 °C (70 °F) and the temperature of the surface to which the asphalt will be applied is 20 °C (70 °F) or above.
- (b) The National Weather Service forecast for the area does not show any rain or any temperatures below 13 °C (55 °F) for the day the work is to be done or for the following two days.

Preparation of Aggregate. The aggregate shall be stockpiled near the jobsite according to Article 1003.01(e) of the Standard Specifications. The aggregate used shall contain no free moisture. If emulsified asphalt is used, slightly damp aggregate may be used with the approval of the Engineer.

General Requirements for Application of Bituminous Material.

- (a) To avoid inducing a premature break when emulsified asphalt is used, the speed of the distributor shall be such that the following rates are not exceeded:

<u>NOZZLE SIZE</u>	<u>MAXIMUM RATE OF APPLICATION</u>
3 mm (1/8 in.)	125 L/minute/m (10 gal/minute/ft) of spray bar in use.

- (b) The bituminous material shall not be applied when the wind conditions will inhibit uniform coverage from the fans of asphalt being applied.
- (c) When treating one-half of the pavement width at a time, an inside strip of uncovered bituminous material 75 mm (3 in.) wide shall be left during construction of the first half to provide center joint overlap when the second half of the treatment is placed.
- (d) The pressure distribution shall not run on empty on the application run.

Application of Bituminous Surface Treatment.

- (a) Bituminous material shall not be applied until there is sufficient aggregate in trucks at the work site to completely cover the first application of bituminous material. The amount of surface area covered by each successive application of bituminous material will be determined by the Engineer. In no case shall this area be greater than can be covered with aggregate and rolled while the bituminous material is still in condition to hold the aggregate.

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- (b) The aggregate spreader shall follow the pressure distributor within 15 m (50 ft) to 23 m (75 ft) or as directed by the Engineer.
- (c) Rolling. The required number of pneumatic tired rollers shall make one pass each, longitudinally, in a staggered formation to insure one complete coverage of the sealed lane of pavement. The pneumatic-tired rollers shall not exceed a speed of 5 km/h (3 mph) to avoid displacement of the aggregate.
- (d) Excess aggregate shall be removed by lightly sweeping with a power broom or brooms capable of sweeping each pavement lane in one pass. This shall be done when directed by the Engineer but not less than one hour before sunset on the day the bituminous surface treatment is placed.

Opening to Traffic. Traffic may be allowed on the surface without pilot cars as soon as the sweeping operation has been completed.

Method of Measurement and Basis of Payment. The astro turf material drag and the calibration of the pressure distributor will be included in the cost of the BITUMINOUS MATERIALS (Cover and Seal Coats). The cost of the calibration of the aggregate spreader will be included in the cost of the SEAL COAT AGGREGATE.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR QUALITY CONTROL/ QUALITY ASSURANCE OF BITUMINOUS CONCRETE MIXTURES

Effective: January 1, 2000

Revised: January 1, 2004

Description. This Special Provision establishes and describes the quality control responsibilities of the Contractor in producing and constructing bituminous concrete mixtures and defines the quality assurance and acceptance responsibilities of the Engineer for Quality Management Projects.

The Contractor, by application for and receipt of prequalification, by submission of a bid, and, if awarded the contract, by execution of the Contract containing this Special Provision, certifies that he/she: fully and thoroughly understands all aspects and requirements of this Special Provision; possesses the latest edition of and thoroughly understands all aspects and requirements of the procedures, manuals, and documents referred to and incorporated by reference in this Special Provision; and waives and releases any and all claims of misunderstanding or lack of knowledge of the same. Furthermore, the Contractor understands and agrees that compliance with the requirements of this Special Provision and of the Annual Quality Control Plan and job-specific Quality Control Addenda approved by the Engineer is an essential element of the Contract. Failure to comply with these requirements can result in one or more of the following: a major breach of this contract and default thereof, a loss of prequalification, and a suspension of the Contractor from bidding.

Bituminous concrete mixtures shall be produced and constructed according to the appropriate Section of Standard Specifications and the following.

The following is a listing of bituminous concrete quality control/quality assurance documents:

- (a) Model Annual Quality Control (QC) Plan for Hot-Mix Asphalt (HMA) Production
- (b) Model Quality Control (QC) Addenda for Hot-Mix Asphalt (HMA) Production
- (c) Bituminous Concrete QC/QA Laboratory Equipment
- (d) Illinois-Modified ASTM D 2950, Standard Test Method for Determination of Density of Bituminous Concrete In-Place by Nuclear Method
- (e) Standard Test Method for Correlating Nuclear Gauge Densities with Core Densities
- (f) Bituminous Concrete QC/QA Start-Up Procedures

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- (g) Bituminous Concrete QC/QA QC Personnel Responsibilities and Duties Checklist
- (h) Bituminous Concrete QC/QA Initial Daily Plant and Random Samples
- (i) Determination of Random Density Test Site Locations
- (j) Bituminous Concrete QC/QA Control Charts/Rounding Test Values
- (k) Bituminous Mixture Design Verification Procedure
- (l) Development of Gradation Bands on Incoming Aggregate at Mix Plants
- (m) Procedure for Asphalt Content of Bituminous Concrete Mixtures by the Nuclear Method (Modified AASHTO T 287-90)

Materials.

- (a) Class I Bituminous Concrete Mixtures. All aggregates shall be produced according to the Department's "Aggregate Gradation Control System". Gradations other than those specified in Sections 1003 and 1004 of the Standard Specifications produced according to the Department's "Aggregate Gradation Control System" may be used for Class I Types 1, 2, and 3 mixtures.
- (b) Non-Class I Bituminous Concrete Mixtures. Materials shall be according to the Standard Specifications for each mixture listed:

Mix Type	Article
Bituminous Aggregate Mixture	312.03
Base Course	355.02
Base Course Widening	356.02
Class B (Plant Mix)	405.02
Shoulder	482.02

If the Contractor receives approval to use a Class I mixture where not required by the contract, either Quality Control program may be used at the Contractor's option.

Equipment. The Contractor may utilize innovative equipment or techniques according to Section 1100 of the Standard Specifications.

- (a) Laboratory. The Contractor shall provide a laboratory, at the plant, according to the Bureau of Materials and Physical Research's Policy Memorandum, "Minimum Private Laboratory Requirements for Construction Materials Testing or Mix Design". The laboratory shall be of sufficient size and be furnished with the necessary equipment and supplies for adequately and safely performing the Contractor's quality control testing. The Contractor is referred to the Department's "Model Annual Quality Control Plan for Hot-Mix Asphalt (HMA) Production" for detailed information on the

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required laboratories. The required laboratory equipment for production and mix design is listed in the Department's "Bituminous Concrete QC/QA Laboratory Equipment."

The laboratory and equipment furnished by the Contractor shall be properly maintained. The Contractor shall maintain a record of calibration results at the laboratory. The Engineer may inspect measuring and testing devices at any time to confirm both calibration and condition. If the Engineer determines the equipment is not within the limits of dimensions or calibration described in the appropriate test method, the Engineer may stop production until corrective action is taken. If laboratory equipment becomes inoperable, the Contractor shall cease mix production.

- (b) Plant Requirements. The Contractor shall provide documentation that the bituminous plants have been calibrated and approved. The Engineer or his/her representative will witness the calibration. This information shall be documented on the appropriate forms and be submitted to the Engineer before any bituminous mix production begins.

Quality Control Plan and Addenda. The approved Annual QC Plan and QC Addenda shall become part of the contract between the Department and the Contractor but shall not be construed, in itself, as acceptance of any bituminous mixture produced. Failure to execute the contract according to the approved Annual QC Plan and QC Addenda will result in suspension of bituminous mix production or other appropriate actions as directed by the Engineer.

The Contractor shall submit in writing to the Engineer a proposed Annual Quality Control (QC) Plan for each bituminous concrete plant for approval before each construction season. Job-specific QC Addenda to the Annual QC Plan must be submitted in writing to the Engineer for approval before the pre-construction conference. The Annual QC Plan and the QC Addenda shall address all elements involved in the production and quality control of the bituminous mixtures incorporated in the project. The proposed QC Plan shall be the Department's "Model Annual Quality Control Plan for Hot-Mix Asphalt (HMA) Production", and the QC Addenda shall be the Department's "Model Quality Control Addendum for Hot-Mix Asphalt (HMA) Production".

The Contractor may propose revisions to portions of the Department's Annual QC Plan and QC Addenda. Revisions require proper justification be provided to the Department by the Contractor to ensure product quality. Any revision in the Annual QC Plan or QC Addenda must be approved in writing by the Engineer.

Construction of bituminous items subject to the Contractor's quality control shall not begin without approval of the Annual QC Plan and QC Addenda by the Engineer.

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The Contractor will be notified in writing upon approval of the Annual QC Plan and QC Addenda by the Engineer.

The Annual QC Plan and QC Addenda may be amended during the progress of the work, by either party, subject to mutual agreement. Revisions require proper justification be provided to the Department to ensure product quality. The Contractor will be notified in writing by the Engineer upon approval of any amendments to the Annual QC Plan and/or QC Addenda.

Mix Design Requirements. The Contractor shall provide mix designs for each type of required mixture. The mixture design shall be performed and documented according to the Department's current Bituminous Concrete Level III Technician Course manual entitled "Bituminous Mixture Design Procedure". Each specific mixture design shall be submitted to and verified by the Department as detailed in the Department's current "Bituminous Mixture Design Verification Procedure."

- (a) Class I Bituminous Concrete Mixtures. The mixture shall be designed according to the criteria stated in Article 406.13 of the Standard Specifications and the contract.
- (b) Non-Class I Bituminous Concrete Mixtures. The 50-blow Marshall mixture design criteria listed below shall apply.

Mix Type	Minimum Stability KN (lb)	Maximum Flow 0.25 mm (0.01 in.)	Air Voids (%)
Bituminous Aggregate Mixture	6.6 (1500)	19	3 ± 1
Base Course	6.6 (1500)	19	3 ± 1
Base Course Widening	6.6 (1500)	19	3 ± 1
Class B (Plant Mix)	6.6 (1500)	19	3 ± 1
Shoulder	6.6 (1500)	19	2 ± 1

Specific mixture designs may be assigned to more than one project or plant and may be used from one construction season to the next provided the designs are resubmitted for verification according to the Department's "Bituminous Mixture Design Verification Procedure". In no case shall aggregates from a different source be substituted in a specific mixture design without complete redesign of the mixture.

The mix design shall be developed, performed, and tested by qualified personnel in a mix design laboratory approved by the Department, using the Department's current Level III procedure. For personnel requirements, see the section in this provision entitled, "Quality Control by Contractor".

Start Of Mix Production And Job Mix Formula (JMF) Adjustments. The Job Mix Formula (mix design) represents the aggregate grading and asphalt content that produce the desired mix criteria in the laboratory.

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- (a) Class I Bituminous Concrete Mixtures. During the mixture start-up the Contractor shall follow the Department's "Bituminous Concrete QC/QA Start-Up Procedures". Article 406.15(b) of the Standard Specifications shall not apply.

At the start of mix production, QC/QA mixture start-up will be required for the following situations: at the beginning of production of a new mixture design, at the beginning of each production season, and at every plant utilized to produce mixtures, regardless of the mix.

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control mix production. Plant settings and control charts shall be set according to target values.

In the field, slight adjustments to the JMF or minor changes in cold-feed/hot-bin blends may be necessary to obtain the desired air voids, density, uniformity, and constructibility. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the bituminous mixture placed during the initial test strip is determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

Any adjustments outside the above limitations will require a new mix design. The limitations between the JMF and AJMF are as follows:

Parameter	Adjustment
12.5 mm (1/2 in.)	± 5.0%
4.75 mm (No. 4)	± 4.0%
2.36 mm (No. 8)	± 3.0%
600 µm (No. 30)	*
75 µm (No. 200)	*
Asphalt Content	± 0.3%

*In no case shall the target for the amount passing be greater than the JMF.

After an acceptable test strip, including required plant tests, production of mix shall be restarted the same day, and an acceptable rolling pattern shall be established in the first 180 metric tons (200 tons) of mix produced. Paving may continue for the remainder of the day. After an acceptable rolling pattern has been established, it shall not be changed unless approved by the Engineer.

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If a mixture start-up is not required, an acceptable rolling pattern shall be developed during the first 275 metric tons (300 tons) of each mixture produced.

A nuclear/core correlation, if required by the Engineer, shall follow the Department's "Standard Test Method for Correlating Nuclear Gauge Densities with Core Densities" and shall be performed by the Contractor during the first production day.

Regardless which QC procedures are used during start of mix production, the next day's production shall not resume until all test results, including an acceptable nuclear/core correlation, are available and an AJMF is agreed upon by the Contractor and Engineer.

- (b) Non-Class I Bituminous Concrete Mixtures. In the field, slight adjustments to the gradation and/or asphalt content may be necessary to obtain the desired air voids, density, uniformity, and constructibility. These adjustments define the Adjusted Job Mix Formula (AJMF) and become the target values for quality control operations. Limitations between the JMF and AJMF are as follows. Any adjustments outside the limitations will require a new mix design.

Parameter	Adjustment
12.5 mm (1/2 in.)	± 6%
4.75 mm (No. 4)	± 5%
75 µm (No. 200)	± 2.5%
Asphalt Content	± 0.5%

Production is not required to stop after a growth curve has been constructed provided the test results are available to both the Contractor and Engineer before the following day's production.

During production the Contractor and Engineer shall continue to evaluate test results and mixture laydown and compaction performance. Adjustments within the above requirements may be necessary to obtain the desired mixture properties. If an adjustment/plant change is made, the Engineer may request additional growth curves and supporting plant tests.

Quality Control by Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the plant or the job site, modification of operations, suspension of bituminous mix production, rejection of material, or other actions as appropriate.

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The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

- (a) Personnel. The Contractor shall provide a Quality Control (QC) Manager who shall have overall responsibility and authority for quality control. This individual shall have successfully completed the Department's Bituminous Concrete Level II Technician Course, "Bituminous Concrete Proportioning and Mixture Evaluation".

In addition to the QC Manager, the Contractor shall provide sufficient personnel to perform the required visual inspections, sampling, testing, and documentation in a timely manner. Mix designs shall be developed by personnel who have successfully completed the Department's Bituminous Concrete Level III Course, "Bituminous Mixture Design Procedure". All technicians who shall be performing mix design testing and plant sampling/testing shall have successfully completed the Department's Bituminous Concrete Level I Technician Course, "Bituminous Concrete Testing". The Contractor may also provide a Gradation Technician who has successfully completed the Department's "Gradation Technician Course" to run gradation tests only under the supervision of a Bituminous Concrete Level II Technician. The Contractor shall provide a Bituminous Concrete Density Tester who has successfully completed the Department's "Bituminous Concrete Nuclear Density Testing Course" to run all required density tests on the job site.

All quality control personnel shall perform the required quality control duties. The Contractor is referred to the Department's "QC Personnel Responsibilities and Duties Checklist" for a description of personnel qualifications and duties. Testing shall be conducted to control the production of the bituminous mixture.

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- (b) Plant Tests. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated:

Parameter	Frequency of Tests Class I Mixtures	Frequency of Tests Non-Class I Mixtures	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier-drum plants. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 2.36 mm (No. 8), 600 µm (No. 30), 75 µm (No. 200))	1 dry gradation per half day of production. Every third test shall be a washed ignition oven (or extraction) test on the mix, to be plotted on the control charts for the purposes of monitoring dust control.	1 dry gradation per day of production. The first day of production requires the initial test to be washed; every eighth test thereafter shall be washed. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4) 75 µm (No. 200))	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by Nuclear Gauge (or Ignition Oven if approved by the Engineer)	1 per half day of production	1 per day	Illinois-Modified AASHTO T 287 (Illinois-Modified AASHTO TP308)
Air Voids Bulk Specific Gravity Maximum Specific Gravity of Mixture	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	1 per day 1 per day	Illinois-Modified AASHTO T 166 Illinois-Modified AASHTO T 209

Article 406.10 of the Standard Specifications shall not apply except the ratio of minus 75 µm (minus No. 200) material to asphalt content during production shall not be less than 0.6 nor more than 1.2.

Contractor testing of all plant test samples shall be complete within 3 1/2 hours of sampling.

The Contractor may apply the following for small tonnage of mixture: Combined belt/hot-bin analysis, voids, and asphalt content tests may not be required on a specific mixture if the day's production is less than 225 metric tons (250 tons) per mix. A minimum of one set of plant tests for each mix shall be performed for each five consecutive production-day period when the accumulated tonnage produced in that period exceeds 450 metric tons (500 tons). A Bituminous Concrete Level II Technician shall oversee all quality control operations. If the required tonnage of any mixture for a single

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pay item is less than 225 metric tons (250 tons) in total, the Contractor shall state his/her intentions of waiving the "Required Plant Tests" in the QC Addenda. The mixture shall be produced using a mix design that has been verified as specified and validated by the Department's recent acceptable field test data. A Bituminous Concrete Level II Technician shall oversee all quality control operations for the mixture.

1 L (1 quart) samples of each asphalt cement (AC) type used shall be taken by the Contractor and will be witnessed by the Engineer. The minimum sampling frequency shall be twice a month. Asphalt cement sample containers will be furnished by the Department. The Engineer will submit the properly identified AC samples to the Bureau of Materials and Physical Research for testing.

For bituminous mixture sampling the Contractor shall obtain required plant samples as directed in the Department's "Bituminous Concrete QC/QA Initial Daily Plant and Random Samples". The Contractor shall split all required samples and identify the split samples per the Engineer's instructions. These split samples shall be retained by the Contractor for assurance testing by the Engineer and be disposed of only with the permission of the Engineer. The split samples shall be stored in a dry, protected location.

The Contractor shall, when necessary, take and test additional samples (designated "check" samples) at the plant during mix production. These samples in no way replace the required plant samples described above. Check samples shall be tested only for the parameters deemed necessary by the Contractor. Check sample test results shall be noted in the Plant Diary and shall not be plotted on the control charts. The Contractor shall detail the situations in which check samples will be taken in his/her Annual QC Plan.

- (c) Required Field Tests. The Contractor shall control the compaction process by testing the mix density at random locations as determined according to the Department's current "Determination of Random Density Test Site Locations" and recording the results on forms approved by the Engineer. The Contractor shall follow the density testing procedures detailed in the Department's "Illinois-Modified ASTM D 2950, Standard Test Method for Determination of Density of Bituminous Concrete In-Place by Nuclear Method".

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(1) Class I Bituminous Concrete Mixtures.

The Contractor shall be responsible for establishing the correlation to convert nuclear density results to core densities according to the Department's "Standard Test Method for Correlating Nuclear Gauge Densities with Core Densities". The Engineer may require a new nuclear/core correlation if the Contractor's gauge is recalibrated during the project.

If the Contractor and Engineer agree the nuclear density test method is not appropriate for the mixture, cores shall be taken at random locations determined according to the Department's "Determination of Random Density Test Site Locations". Three cores shall be taken at equal distances across the test site. These cores shall be averaged to provide a single test site result. Core densities shall be determined using the Illinois-Modified AASHTO T 166 or T 275 procedure.

For Class I Types 1, 2 and 3 Mixtures, quality control density tests shall be performed at randomly selected locations within 800 m (1/2 mile) intervals and for each lift of 75 mm (3 in.) or less in thickness. For lifts in excess of 75 mm (3 in.) in thickness, a test shall be performed within 400 m (1/4 mile) intervals. Testing of lifts equal to or greater than 150 mm (6 in.) compacted thickness shall be performed in the direct transmission mode according to the Department's "Illinois-Modified ASTM D 2950, Standard Test Method for Determination of Density of Bituminous Concrete In-Place by Nuclear Method". Density testing shall be accomplished intermittently throughout the day. In no case shall more than one half day's production be completed without performing density testing.

Density tests shall be performed each day on patches located nearest the randomly selected location. The daily testing frequency shall be a minimum of two density tests per mix. Density testing shall be accomplished intermittently throughout the day. In no case shall more than one half day's production be completed without performing density testing.

(2) Non-Class I Bituminous Concrete Mixtures.

The Contractor shall perform a growth curve at the beginning of placement of each type of mix and each lift. The growth curve shall be constructed and evaluated according to the following procedure:

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The growth curve for each type of mix and each lift shall be performed within the first 180 metric tons (200 tons). If an adjustment is made to the specific mix design, the Engineer reserves the right to request an additional growth curve and supporting tests at the Contractor's expense.

Compaction of the growth curve shall commence immediately after the course is placed and at a temperature of not less than 140 °C (280 °F). The growth curve, consisting of a plot of kg/cu m (lb/cu ft) vs. number of passes with the project breakdown roller, shall be developed. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest kg/cu m (lb/cu ft) is obtained. This value shall be the target density provided the Marshall air voids are within acceptable limits. If Marshall air voids are not within the specified limits, corrective action shall be taken, and a new target density shall be established.

A new growth curve is required if the breakdown roller used on the growth curve is replaced with a new roller during production.

The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge. The Department will establish a target density for its Quality Assurance nuclear gauge from the growth curve location.

All lifts shall be compacted to an average density of not less than 95 percent nor greater than 102 percent of the target density obtained on the growth curve. The average density shall be based on tests representing one day's production.

Quality Control density tests shall be performed at randomly selected locations within 800 m (1/2 mile) intervals per lift per lane. In no case shall more than one half day's production be completed without density testing being performed.

If the Contractor is not controlling the compaction process and is making no effort to take corrective action, the operation shall stop as directed by the Engineer.

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- (d) Control Limits. Target values shall be determined by applying adjustment factors to the AJMF where applicable. The target values shall be plotted on the control charts within the following control limits:

Control Limits			
Parameter	Class I Individual Test	Class I Moving Avg. of 4	Non-Class I Individual Test
% Passing:			
12.5 mm (1/2 in.)	± 6%	± 4%	± 15%
4.75 mm (No. 4)	± 5%	± 4%	± 10%
2.36 mm (No. 8)	± 5%	± 3%	
600 µm (No. 30)	± 4%	± 2.5%	
75 µm (No. 200)	± 1.5%	± 1.0%	± 2.5%
Total Dust Content 75 µm (No. 200) ^{1/}	± 1.5%	± 1.0%	± 2.5%
Asphalt Content	± 0.3%	± 0.2%	± 0.5
Voids:			
Class I Type 1	± 1.2%	± 1.0%	
Class I Type 2	± 1.2%	± 1.0%	
Class I Type 3	± 1.2%	± 1.0%	
Non-Class I – Shoulders			2% ± 1%
Non-Class I – Others			3% ± 1%
Density:			
Class I Type 1	92.0 - 96.0%		
Class I Type 2	93 - 97%		
Class I Type 3	93 - 97%		
Non-Class I			Average 95-102% Target

1/ Based on washed ignition oven

- (e) Control Charts. Standardized control charts shall be maintained by the Contractor at the field laboratory. The control charts shall be displayed and be accessible at the field laboratory at all times for review by the Engineer.

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Individual required test results obtained by the Contractor shall be recorded on the control chart immediately upon completion of a test, but no later than 24 hours after sampling. Only the required plant tests and resamples shall be recorded on the control chart. Any additional testing of check samples may be used for controlling the Contractor's processes, but shall be documented in the plant diary.

The results of assurance tests performed by the Engineer will be posted as soon as available.

The following parameters shall be recorded on standardized control charts as described in the Department's "Bituminous Concrete QC/QA Control Charts/Rounding Test Values".

Control limits for each required parameter, both individual tests and the average of four tests, shall be exhibited on control charts. Test results shall be posted within the time limits previously outlined.

CONTROL CHART REQUIREMENTS	CLASS I MIXES	NON-CLASS I MIXES
Combined Gradation of Hot-Bin or Belt Aggregate Samples	% Passing Sieves: 12.5 mm (1/2 in.) 4.75 mm (No. 4) 2.36 mm (No. 8) 600 μ m (No. 30) 75 μ m (No. 200)	% Passing Sieves: 12.5 mm (1/2 in.) 4.75 mm (No. 4) 75 μ m (No. 200)
Total Dust Content of Washed Ignition Oven or Extraction ^{1/}	75 μ m (No. 200)	75 μ m (No. 200)
	Asphalt Content	Asphalt Content
	Bulk Specific Gravity	Bulk Specific Gravity
	Maximum Specific Gravity of Mixture	Maximum Specific Gravity of Mixture
	Voids	Voids
	Density	Density

1/ Based on washed ignition oven

(f) Corrective Action for Required Plant Tests

- (1) Individual Test Results. When an individual test result exceeds its control limit, the Contractor shall immediately resample and retest. If at the end of the day no material remains from which to resample, the first sample taken the following day shall serve as the resample as well as the first sample of the day. This result shall be recorded as a retest. If

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the retest passes, the Contractor may continue the required plant test frequency. Additional check samples should be taken to verify mix compliance.

a. Voids and Asphalt Content.

1. Class I Bituminous Concrete Mixtures. If the retest for voids or asphalt content exceeds control limits, mix production shall cease and immediate corrective action shall be instituted by the Contractor. After corrective action, mix production shall be restarted, the mix production shall be stabilized, and the Contractor shall immediately resample and retest. Mix production may continue when approved by the Engineer. The corrective action shall be documented.

Inability to control mix production is cause for the Engineer to stop the operation until the Contractor completes an investigation identifying the problems causing failing test results.

2. Non-Class I Bituminous Concrete Mixtures. If the retest for voids or asphalt content exceeds control limits, immediate corrective action shall be instituted by the Contractor. After corrective action, the Contractor shall immediately resample and retest. The corrective action shall be documented.

If corrective action has been initiated and the second resample fails, the Contractor shall cease operations. Failure to cease production shall subject all subsequently produced materials to be considered unacceptable.

Inability to control mix production is cause for the Engineer to stop the operation until the Contractor completes an investigation identifying the problems causing failing test results.

- b. Combined Aggregate/Hot-Bin. For combined aggregate/hot-bin retest failures, immediate corrective action shall be instituted by the Contractor. After corrective action, the Contractor shall immediately resample and retest. The corrective action shall be documented.

- (2) Moving Average. When the moving average values trend toward the moving average control limits, the Contractor shall take corrective action and increase the sampling and testing frequency. The corrective action shall be documented.

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The Contractor shall notify the Engineer whenever the moving average values exceed the moving average control limits. If two consecutive moving average values fall outside the moving average control limits, the Contractor shall cease operations. Corrective action shall be immediately instituted by the Contractor. Operations shall not be reinstated without the approval of the Engineer. Failure to cease operations shall subject all subsequently produced material to be considered unacceptable.

- (3) Dust Control. If the washed ignition oven (for extraction) test results indicate a problem with controlling dust, corrective action to control the dust shall be taken and approved by the Engineer. If the Engineer determines that Positive Dust Control Equipment is necessary, as outlined in the Bureau of Materials and Physical Research Policy Memorandum, "Approval of Hot Mix Bituminous Plants and Equipment", the equipment shall be installed prior to the next construction season.
- (4) Mix Production Control. If the Contractor is not controlling the production process and is making no effort to take corrective action, the operation shall stop.
- (g) Corrective Action for Required Field Tests (Density). When an individual density test exceeds the control limits, the Contractor shall immediately retest in a location that is halfway between the failed test site and the finish roller. If the retest passes, the Contractor shall continue the normal density test frequency. An additional density check test should be performed to verify the mix compaction.

If the retest fails, the Contractor shall immediately conduct one of the following procedures:

- (1) Low Density. If the failing density retest indicates low densities, the Contractor shall immediately increase the compaction effort, review all mixture test results representing the mix being produced, and make corrective action as needed. The Contractor shall immediately perform a second density retest within the area representing the increased compaction effort and mixture adjustments.
- (2) High Density. If the failing density retest indicates high densities, the Contractor shall cease production and placement until all mixture test results are reviewed and corrective action is taken. If the high density failure is a result of a change in the mixture, any existing material in the surge bin may be subject to rejection by the Engineer. After restart of mix production, a second density retest shall then be performed in the area representing the mixture adjustments.

If the second retest from either procedure passes, production and placement of the mix may continue. The increased compaction effort for low density failures shall not be reduced to that originally being used unless it is

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determined by investigation that the cause of the low density was unrelated to compaction effort, the cause was corrected, and tests show the corrective action has increased the density within the required limits.

If the second retest fails, production and placement of the mix shall cease until the Contractor has completed an investigation and the problem(s) causing the failing densities has/have been determined. If the Contractor's corrective action is approved by the Engineer, production and placement of the mix may then be resumed. The Contractor shall increase the frequency of density testing to show, to the satisfaction of the Engineer, that the corrective action taken has corrected the density problem.

If the Contractor is not controlling the compaction process and is making no effort to take corrective action, the operation, as directed by the Engineer, shall stop.

Quality Assurance By The Engineer. The Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples a minimum of twice a month and will immediately retain the samples for quality assurance testing.

The overall testing frequency will be performed over the entire range of Contractor samples and will be equal to or greater than 10 percent for gradations and equal to or greater than 20 percent for asphalt content, bulk specific gravity, maximum specific gravity and field density. The Engineer may select any or all split samples for assurance testing. The Engineer will initiate independent assurance testing during mixture field verification. These tests may be performed immediately or anytime up to ten working days after sampling. The test results will be made available to the Contractor as soon as they become available.

The Contractor's nuclear/core correlation will be verified utilizing Department nuclear gauges.

The Engineer may witness the sampling and testing being performed by the Contractor. The Engineer will document all witnessed samples and tests.

The Engineer will promptly notify the Contractor, both verbally and in writing, of observed deficiencies. If the Engineer observes that the sampling and quality control tests are not being performed according to the applicable test procedures, the Engineer may stop production until corrective action is taken.

The Engineer may elect to obtain samples for testing, separate from the Contractor's quality control process, to verify specification compliance.

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Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits:

Test Parameter	Acceptable Limits of Precision	
	Class I	Non-Class I
% Passing:		
12.5 mm (1/2 in.)	5.0%	5.0%
4.75 mm (No. 4)	5.0%	5.0%
2.36 mm (No. 8)	3.0%	
600 µm (No. 30)	2.0%	
75 µm (No. 200)	2.2%	2.2%
Total Dust Content 75 µm (No. 200) ^{1/}	2.2%	2.2%
Asphalt Content	0.3%	0.3%
Maximum Specific Gravity of Mixture	0.026	0.026
Bulk Specific Gravity	0.045	0.045
Density (Percent Compaction)	1.0% (Correlated)	1.5% ^{2/}

1/ Based on washed ignition oven

2/ Applies to the final percentage difference between the gauges when compared against the individual target density of each gauge.

The Department may run extractions for assurance, when deemed necessary by the Engineer.

In the event comparison of the required plant test results is outside the above acceptable limits of precision, Department split or independent samples fail the control limits, a Department extraction indicates non-specification mix, or a continual trend of difference between Contractor and Department test results is identified, the Engineer will immediately investigate. The Engineer may suspend production as stated in Article 108.07 of the Standard Specifications, while the investigation is in progress. The investigation may include testing by the Engineer of any remaining split samples or a comparison of split sample test results on the mix currently being produced. The investigation may also include review and observation of the Contractor's technician performance, testing procedure, and equipment.

CHECK SHEET #15

If a problem is identified with the mix, the Contractor shall take immediate corrective action. After corrective action, both the Contractor and the Engineer shall immediately resample and retest following the procedures in Subsection "Corrective Action for Required Plant Tests", of the section in this provision entitled "Quality Control by Contractor".

In the event comparison of the required field test results (densities) are outside the above acceptable limits of precision, Department split or independent samples fail the density limits, or a continual trend of difference between Contractor and Department test results is identified, the Engineer will immediately investigate. The investigation will include testing by the Engineer of any remaining random density locations. The Engineer may establish additional locations for testing by both the Contractor and the Department to provide further comparison results. The investigation shall also include review and observation of the Density Tester performance, testing procedure, and equipment. The original correlation and/or comparison data, for both gauges, shall be reviewed as part of the investigation process. If the problem continues, the Engineer may require a new correlation be performed.

Acceptance By The Engineer. Final acceptance will be based on the following:

- (a) Validation of the Contractor's quality control by the assurance process.
- (b) The Contractor's process control charts and actions.
- (c) Department assurance tests for voids and density.

If any of the above are not met, the work will be considered in non-conformance with the contract.

Documentation. The Contractor shall be responsible for documenting all observations, records of inspection, adjustments to the mixture, test results, retest results, and corrective actions in a bound hardback field book or bound hardback diary which will become the property of the Department.

The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the Contractor's consultants, or the producer of bituminous mix material.

The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

Adjustments to mixture production and test results shall be recorded in duplicate and sent to the Engineer on forms approved by the Engineer.

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Basis of Payment. Quality Control/Quality Assurance of bituminous concrete mixtures will not be paid for separately, but shall be considered as included in the cost of the various bituminous contract items.

Test Strips will be paid according to the following:

- (a) If the bituminous mixture placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within the tolerances of the JMF, the initial mixture and test strip will not be paid for and shall be removed at the contractor's expense. An additional test strip will be paid for in full, if produced within the JMF tolerances.
- (b) If the bituminous mixture placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within the tolerances of the JMF, the mixture shall be removed. Removal will be paid for according to Article 109.04 of the Standard Specifications. This initial mixture and test strip will be paid for at the contract unit prices. The additional mixture shall be replaced at the contract unit price, and any additional test strips will be paid for at one half the unit price of each test strip.
- (c) If the bituminous mixture placed during a test strip is determined to be acceptable to remain in place by the Engineer and the Engineer deems a new start-up is required for any reason, the initial mixture and test strip will be paid for at the contract unit prices. The additional mixture will be paid for at the contract unit price and any additional test strips will be paid for at one half the unit price of each test strip.

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
SUBSEALING OF CONCRETE PAVEMENTS

Effective: November 1, 1984

Revised: February 1, 1995

Description. This work shall consist of filling voids beneath rigid and composite pavements with portland cement grout.

Materials. Materials shall be according to the following Articles of Section 1000 - Materials of the Standard Specifications:

Item	Article/Section
(a) Portland Cement (Note 1).....	1001
(b) Water.....	1002
(c) Fly ash (Note 2).....	1010.03
(d) Admixtures	1021

Note 1: Portland cement shall be Type I.

Note 2: The sulfur trioxide requirements may be waived.

Equipment.

Grout Plant. The grout plant shall be capable of accurately measuring and proportioning ingredients by volume, mass (weight), or a combination thereof. The mixer shall be capable of producing a consistent and homogeneous mixture free of lumps. Provisions for calibrating the batching or metering equipment and a positive means of monitoring total production including continuity of material delivery shall be provided.

Grout Pump. The grout pump shall be a positive displacement pump capable of producing 69 to 690 kPa (10 to 100 psi) at the grout packer. If the volume of the grout storage area is 0.1 cu m (4 cu ft) or more it shall be equipped with mixing paddles. The discharge line shall be equipped with a positive cut-off valve at the nozzle end, and a bypass return line for re-circulating the grout into the holding tank or mixer; otherwise, the packer shall be inserted into the grout holding tank and the pump operated to prevent setting or degradation of the grout.

Drill. The drilling devices shall be capable of drilling the grout injection holes through the pavement, and through the subbase. The equipment shall be in good condition and operated in such a manner that the holes are vertical and sufficiently

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round to permit sealing by the packer head. Means to monitor the down feed force shall be provided.

Movement Detectors. The Contractor shall supply equipment to measure slab lift. When used on jointed pavements, the equipment shall be capable of detecting simultaneously the lift of the corners of two adjacent slabs. The equipment shall have graduations of 0.025 mm (0.001 in.). Two such measuring devices, according to the attached drawing or other approved devices, shall be provided.

Flow Cone. The flow cone shall be according to Corps of Engineers Specification CRD-C611.

Pressure Gauge. The pressure gauge, protected from direct contact with grout slurry, shall be mounted in the grout line at the packer head.

CONSTRUCTION REQUIREMENTS

General. Grout pumping shall not be performed when ambient temperature is below 5 °C (40 °F), or when the subgrade and/or base material is frozen.

Grout pumping will not be allowed after October 31 nor prior to April 15 unless written approval is given by the Engineer.

Drilling Holes. Grout injection holes shall be drilled in the pattern shown in the plans or as determined by the Engineer. They shall not be larger than 50 mm (2 in.) in diameter, drilled vertically and round, to penetrate 50 to 150 mm (2 to 6 in.) below the subbase material. The downfeed force shall not exceed 890 N (200 lb). Depth of spalling of the pavement underside due to drilling of the concrete pavement shall not exceed 20 percent of the pavement thickness. Three times the bid price for holes drilled will be deducted from the money due the Contractor for each hole determined to be excessively spalled. Inspection holes shall be drilled, as required by the Engineer, to determine if the voids under the pavement have been filled. If the voids have not been filled, grout shall be pumped into the inspection hole as described herein.

Washing Holes. Holes shall be washed with water prior to subsealing in order to assure an opening into the void system as directed by the Engineer.

Proportioning Grout. Grout for filling voids beneath pavement shall be composed of portland cement, fly ash, water, and if necessary, admixtures. Grout shall meet the following minimum requirements:

- (a) Minimum cement content of 20 percent of the Absolute Volume of the grout solids.
- (b) Flow cone efflux time shall be 10 to 17 seconds as determined according to the Corps of Engineers Specification CRD-C611.

- (c) Minimum design strength at minimum efflux time shall be 4150 kPa (600 psi) at seven days as determined according to the applicable portions of AASHTO T 106.

At least three weeks prior to the beginning of this work, the Contractor shall submit to the Engineer his/her proposed mixture proportions based on absolute volumes. The submittal shall include independent laboratory testing of the grout showing one day, three day, and seven day strengths, efflux time, time of initial set, and specific gravity of fly ash. Accompanying this submittal shall be sufficient quantities of all mixture components to permit laboratory verification of the grout properties listed herein.

Mixing Grout. Mixed material shall not be held for more than 60 minutes. With permission of the Engineer, grout that has lost fluidity may be re-tempered with mix water one time.

Pumping Grout. An expanding rubber packer or hose connected to the discharge from the plant shall be lowered into the hole. The discharge end of the packer or hose shall not extend below the lower surface of the concrete pavement. Each hole shall be pumped until lift is observed, or material is observed flowing from hole to hole. Movement detectors shall be transported and positioned by the Contractor at each joint and crack to monitor lift. The upward movement of the pavement shall not exceed 1.2 mm (0.05 in.).

Transient pressures (2-3 seconds duration) of no greater than 690 kPa (100 psi) will be permitted to facilitate grout flow. Pumping pressures for void filling shall be no greater than 276 kPa (40 psi).

Water displaced from the void structure by the grout shall be allowed to flow out freely.

Excessive loss of the grout through cracks, joints, holes or in the shoulder area will not be allowed. Pay quantities will be reduced by the Engineer accordingly.

Immediately after the grout packer has been removed from the hole, the hole shall be filled with a wooden plug or other approved methods when necessary to prevent grout loss from the hole. These plugs shall remain in place until the grout has set sufficiently to prevent grout escaping from the hole. Plugs driven flush may remain in place until the hole is patched.

Patching Holes. Upon completion of pumping, all drill holes shall be filled flush with the surface of the pavement using a fast setting sand cement material approved by the Engineer. Mortar for filling the holes in the concrete pavement may be composed of one part portland cement and two parts fine aggregate, by volume, and only enough water to permit placing and packing of the mortar in the holes. A packaged rapid set mortar or concrete according to ASTM C 928 may be used.

Cleaning Pavement. All drill tailings, spilled grout, and other debris shall be cleaned up at the end of each working day or before the lane is opened to traffic.

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When adjacent lanes are open to traffic, provisions shall be made to prevent grout from encroaching onto the open lane or squirting onto passing vehicles.

Opening to Traffic. The lane in which pumping operations are completed may be opened to traffic 1/2 hour after the initial set of the grout measured at the placement temperature. Initial set will be as determined by AASHTO T 154 except the test will be run at ambient air temperature at time of placement.

Method of Measurement.

Traffic Control. Traffic control will be measured according to the Standard Specifications except when the Contractor chooses to operate at night. In such cases, the additional required traffic control shall be provided and shall be included in the bid prices of other items and no additional compensation will be allowed.

Holes. Holes drilled through the pavement structure, including inspection holes, at the location and to the depths shown on the plans or as directed by the Engineer, will be measured per each. Incomplete or unsatisfactory holes not used for pumping grout will not be measured for payment.

Grout Material. Grout incorporated into the pavement structure will be measured in cubic meters (cubic feet) (absolute volume) of dry solid material only. Masses (Weights) will be converted to dry solid volume using the following formula:

$$V = \frac{W_c}{G_c \times 9.8} + \frac{W_f}{G_f \times 9.8} \quad \left(\frac{W_c}{G_c \times 62.4} + \frac{W_f}{G_f \times 62.4} \right) \quad \text{Where:}$$

- V = Total absolute volume of the dry solids in cu m (cu ft).
- W_c = Mass (Weight) of portland cement in kg (lb).
- G_c = Specific gravity of portland cement.
- W_f = Mass (Weight) of fly ash in kg (lb).
- G_f = Specific gravity of fly ash.

Water and admixtures will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per cubic meters (cubic foot) for DRY GROUT SOLIDS and at the contract unit price per each for HOLES DRILLED.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
BITUMINOUS SURFACE REMOVAL (COLD MILLING)**

Effective: November 1, 1987
Revised: October 15, 1997

Description. This work shall consist of milling and planing materials from the existing pavement to remove wheel lane ruts and to produce a pavement surface texture consisting of a uniform pattern of discontinuous longitudinal striations interspersed on an otherwise flat surface. The cold milled salvaged aggregate resulting from this operation shall become the property of the Contractor.

Equipment. The machine used for milling and planing shall be a self-propelled grinding machine. The grinding machine shall be capable of accurately and automatically establishing profile grades by referencing from an independent grade reference control meeting the requirements of Article 1102.03 of the Standard Specifications and shall have a positive means for controlling cross slope elevations. It shall also have an effective means for removing excess material from the surface and for preventing dust resulting from the operation from escaping into the air. The machine used for milling and planing the pavement shall have a 3.6 m (12 ft) wide drum at least 710 mm (28 in.) in diameter.

The cutting teeth used in the milling operation shall be the GTE AM 722, or an approved equivalent. When the teeth become worn so they will not produce the required surface texture, they shall be changed at the same time (as a unit). Occasionally, individual teeth may be changed if they lock up or break, but this method shall not be used to avoid changing the set of teeth as a unit.

The moldboard shall be straight, true, and free of excessive nicks or wear, and it shall be replaced as necessary to uniformly produce the required surface texture.

CONSTRUCTION REQUIREMENTS

General. The temperature at which the work is performed, the nature and condition of the equipment, and the manner of performing the work shall be such that the milled and planed surface is not torn, gouged, shoved, or otherwise injured by the grinding operation. Sufficient cutting passes shall be made so all irregularities or high spots are eliminated. Surface tests will be made according to Article 407.09 of the Standard Specifications.

The Contractor shall remove any castings in the pavement and cover the holes prior to milling. The Contractor shall mill the amount as shown on the plans at the

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centerline, except when the milling at the outer edge of the surface exceeds 40 mm (1 1/2 in.); then the Contractor shall reduce the cut at the centerline to provide a maximum cut at the outer edge of the pavement of 40 mm (1 1/2 in.). It may also become necessary to reduce the slope of the crown from 15 mm/m (3/16 in./ft) to 10 mm/m (1/8 in./ft) to maintain a maximum cut at the outer edge of 40 mm (1 1/2 in.).

Surface Texture. Each tooth on the cutting drum shall produce a series of discontinuous longitudinal striations. There shall be 16 to 20 striations (tooth marks) for each tooth for each 1.8 m (6 ft) in the longitudinal dimension, and each striation shall be 43 ± 5 mm (1.7 ± 0.2 in.) in length after the area is planed by the moldboard. Thus the planed length between each pair of striations shall be 58 ± 5 mm (2.3 ± 0.2 in.). There shall be 80 to 96 rows of discontinuous longitudinal striations for each 1.5 m (5 ft) in the transverse dimension. The pattern of striations shall be such that a line connecting striations in adjacent rows shall form approximately a 70 degree skew angle with the roadway centerline. The areas between the striations in both the longitudinal and transverse directions shall be flat-topped and coplanar. The moldboard shall be used to cut this plane, and any time the operation fails to produce this flat plane interspersed with a uniform pattern of discontinuous longitudinal striations, the operation shall be stopped and the cause determined and corrected before recommencing.

A detail showing the required surface texture is included in the proposal. Although only one texture pattern is shown, other similar patterns of uniform discontinuous longitudinal striations interspersed on a flat plane may be approved by the Engineer.

Clean-up. After cold milling and planing a traffic lane, the pavement shall be swept by a mechanical broom to prevent recompaction of the cuttings onto the pavement. All loose material shall be removed from the roadway. Before opening the lane to traffic, it shall be cleaned with a mechanical broom to the satisfaction of the Engineer.

Method of Measurement.

- (a) Contract Quantities. The requirements for the use of contract quantities shall be according to Article 202.07(a) of the Standard Specifications.
- (b) Measured Quantities. Cold-milling and planing will be measured and the area computed in square meters (square yards) of surface.

Basis of Payment. The cold milling and planing will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS SURFACE REMOVAL (COLD MILLING). Payment shall include variations in depth of cut due to rutting, superelevations, and pavement crown.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
RESURFACING OF MILLED SURFACES**

Effective: October 1, 1995

Add the following paragraph to the beginning of Article 440.03 of the Standard Specifications:

"The Contractor shall resurface milled pavement within ten calendar days."

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR PCC PARTIAL DEPTH BITUMINOUS PATCHING

Effective: January 1, 1998

Description. This work shall consist of partial depth removal of the existing pcc pavement structure, and replacement with bituminous concrete at the locations shown on the plans, or as directed by the Engineer.

Materials. The bituminous prime coat and bituminous concrete mixture shall be according to Section 406 of the Standard Specifications. The mixture for the bituminous concrete for partial depth patches shall be binder or surface mixture, Class I, of the same Type as the proposed resurfacing.

Equipment. The machine used for milling shall be a self-propelled milling machine capable of milling to the specified depth without damaging the adjacent pavement that is to remain in place. A wheel saw according to Article 442.03(h) of the Standard Specifications may also be used for partial depth pavement removal. When required, the concrete saw shall be according to Article 442.03(g) of the Standard Specifications, except it shall be equipped with a blade of sufficient diameter to saw the pavement to the thickness required in the plans. Rollers used to compact the bituminous concrete mixture shall be according to Article 442.03 of the Standard Specifications. Cleaning equipment shall be a mechanical sweeper according to Article 1101.03 of the Standard Specifications or air equipment capable of applying compressed air, at a minimum 690 kPa (100 psi), and shall have sufficient flow rate to remove all disturbed pavement debris. Air equipment shall meet the requirements of ASTM D 4285.

CONSTRUCTION REQUIREMENTS

General. Disposal of waste materials shall be according to Article 202.03 of the Standard Specifications.

Partial depth removal of the pavement shall be accomplished by the use of a milling machine and/or the wheel saw. The minimum patch dimension shall be 600 mm x 600 mm (24 in. x 24 in.). Debris from the milling or wheel saw operation shall be removed from the patch area by air equipment or mechanical sweeper and shall remove all disturbed pavement debris and any loose and/or unsound concrete. Exposed reinforcement shall be removed back to the point where the steel is in contact with sound portland cement concrete. Where high steel is encountered, the depth of milling may be reduced as directed by the Engineer.

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When the Engineer determines the exposed pavement will be suitable for a partial depth patch, a bituminous prime coat shall be applied according to Article 406.06(b) of the Standard Specifications.

The prepared patch shall be filled with bituminous concrete with a maximum lift thickness of 75 mm (3 in.). Where more than one lift is needed, the top lift shall be a minimum of 50 mm (2 in.) thick. At the option of the Contractor, the 50 mm (2 in.) top layer may be constructed using bituminous concrete surface course. The bituminous concrete shall be compacted to the satisfaction of the Engineer.

Patches opened to traffic which are high or become rough by rutting, shoving, or heaving shall be corrected by trimming off high areas and/or filling depressions. Filled areas shall be rolled again. Trimming high patches or filling in depressions on rough patches shall be at the Contractor's expense.

When the Engineer determines the exposed pavement will not be suitable for a partial depth patch, or removal is one half or more of the pavement thickness, the Contractor shall remove the remaining portion of the pavement and place a full depth patch according to Section 442 of the Standard Specifications for the Class of full depth patches included in the contract.

Method of Measurement. Partial depth removal of the pcc pavement will be measured in square meters (square yards) of the thickness specified.

Bituminous concrete mixtures for partial depth patching of the pcc pavement will be measured in metric tons (tons) according to Article 406.23 of the Standard Specifications.

Basis of Payment. Partial depth removal of the pcc pavement will be paid for at the contract unit price per square meter (square yard) for PARTIAL DEPTH REMOVAL, of the thickness specified.

Partial depth patching will be paid for at the contract unit price per metric tons (tons) for PARTIAL DEPTH PATCHING.

When the Engineer determines to convert any partial depth patch to a full depth patch after the partial depth removal of the pcc pavement has begun, the partial depth removal shall be paid for at the contract unit price for PARTIAL DEPTH REMOVAL. The removal for the full depth patch will be considered as included in the appropriate full depth patching pay item.

CHECK SHEET #20

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
PATCHING WITH BITUMINOUS OVERLAY REMOVAL**

Effective: October 1, 1995
Revised: July 1, 1999

Description. This work shall consist of removing the bituminous over areas to be patched, patching and bituminous replacement.

General. The bituminous shall be removed as shown on the plans according to Section 440 of the Standard Specifications. After the bituminous has been removed, the Engineer will determine if patching is necessary. Areas requiring patching shall be patched according to Section 442 of the Standard Specifications. Bituminous binder replacement shall be according to Section 406 of the Standard Specifications.

Method of Measurement. In the event the thickness of the existing pavement in an area to be patched after the surface has been removed or the thickness of the existing overlay differs from the thickness shown on the plans, the Engineer will adjust the patching quantity, for the specific patch type, or bituminous surface removal for the individual patches meeting this requirement as indicated by the following chart. The quantities will be increased when the thickness is greater and decreased when the thickness is less.

% change of thickness	% change of quantity
0 to less than 15	0
15 to less than 20	10
20 to less than 30	15
30 and greater	20

Patching will be measured according to Article 442.10 of the Standard Specifications.

Bituminous removal over the patches will be measured in square meters (square yards) of the thickness specified.

The bituminous binder replacement will be measured in metric tons (tons) according to Article 406.23 of the Standard Specifications.

Basis of Payment. The bituminous removal will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS REMOVAL OVER PATCHES of the thickness specified.

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Bituminous binder replacement will be paid for at the contract unit price per metric tons (tons) for BITUMINOUS REPLACEMENT OVER PATCHES.

Patching will be paid for according to Article 442.11 of the Standard Specifications.

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Reserved

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
PROTECTIVE SHIELD SYSTEM

Effective: April 1, 1995
Revised: January 1, 2003

Description. This work shall consist of furnishing, installing and removing a protective shield system by the Contractor as required to protect pedestrian, vehicular and/or railroad traffic from falling material or other objects during the removal of portions of the existing structure.

CONSTRUCTION REQUIREMENTS

General. The protective shield system shall protect the area shown on the plans and/or as directed by the Engineer. The protective shield system shall be designed and constructed to sustain loads of 9.5 kPa (200 lb/sq ft) in addition to its own weight. Protective shield systems comprised of wood members shall be designed for a minimum loading duration of seven days. The system may be either fixed or mobile. The existing vertical clearances above roadways and/or railroad tracks shall be maintained. The Contractor shall coordinate the installation with municipalities and/or utilities to insure protection of their facilities during the structure removal. Lane closures and other traffic control required during installation and removal shall be according to the contract traffic control plan.

The Contractor shall furnish working drawings and calculations to the Engineer for examination. The drawings shall provide full details, dimensions and types of materials. The drawings shall also be prepared and sealed by an Illinois Licensed Structural Engineer.

Structure removal shall not commence until the protective shield system is in place and permission is granted by the Engineer.

Upon completion of the work or when directed by the Engineer, the protective shield system shall be removed. All material removed shall remain the property of the Contractor.

Method of Measurement. This work will be measured for payment as follows:

- (a) Contract Quantities. The requirements for the use of the contract quantities shall conform to Article 202.07(a) of the Standard Specifications.
- (b) Measured Quantities. This work will be measured for payment and the area computed in square meters (square yards). The length, shown on the

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plans, will be measured along the centerline of the structure. The width will be the out to out width of the deck. If the Contractor chooses to extend the protective shield system beyond that shown, it will be at his/her own expense.

| Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for PROTECTIVE SHIELD.

CHECK SHEET #23

State of Illinois
Department of Transportation

SPECIAL PROVISION FOR POLYMER CONCRETE

Effective: August 1, 1995
Revised: January 1, 2004

Description. This work shall consist of furnishing all labor, equipment, technical assistance, and materials necessary to install the polymer concrete as shown on the plans and as specified herein.

Materials: The polymer concrete material shall be a fast setting composite material that may contain aggregate and fibers. It shall be resilient, self-adhering and water tight. It shall withstand and remain bonded to the surrounding material under repeated impact and thermal cycling. It shall not flow nor become tacky in temperatures up to 54 °C (130 °F.). It shall be resistant to ultraviolet radiation, petroleum products and abrasion. It shall be capable of curing at all temperatures above 10 °C (50 °F.). Mixing and placement shall be according to the manufacturer's written instructions. Based on information provided in the material safety data sheet, the Engineer reserves the right to reject the material due to health or safety concerns.

The polymer concrete shall comply with the following requirements:

Compressive Strength (IL Mod. ASTM C 579)	7,600 kPa (1,100 psi) min. @ 15% strain 7,600 kPa (1,100 psi) min. @ 15% strain
Direct Shear (IL Method)	13.8 kN (3,100 lb) min. for concrete and steel stable/cycle
Freeze-Thaw (IL Mod. AASHTO T161)	300 cycles min.
Salt Scale (IL Mod. ASTM C 672)	60 cycles min.
Traffic Bearing Time	4 hours max. @ 21 ± 2 °C (70 ± 4 °F.)
Pot Life	5 minutes min. @ 21 ± 2 °C (70 ± 4 °F.)
Impact Resistance (IL Mod. ASTM D 2444): -29 ± 2 °C (-20 ± 4 °F.) 23 ± 2 °C (73 ± 4 °F.) 70 ± 2 °C (158 ± 4 °F.)	1.5 m (5 ft) 2.4 m (8 ft) 1.5 m (5 ft)

The Department will maintain an approved list.

Equipment. All equipment necessary for proper construction of this work shall be as recommended by the manufacturer and approved by the Engineer prior to beginning the work. Air equipment shall pass the requirements of ASTM D 4285. This test shall be repeated as determined by the Engineer.

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CONSTRUCTION REQUIREMENTS

General. Technical assistance provided by the manufacturer during surface preparation and installation shall be furnished at no additional cost to the Department. The Contractor shall furnish the Engineer with the manufacturer's written product information, installation procedures, and instructional video at least two weeks prior to installation. The Contractor, the manufacturer's representative, and the Engineer shall meet to review and clarify installation procedures, and requirements prior to starting the work. A technical representative shall be present for the start of surface preparations and installation for at least one day. The Contractor shall contact the manufacturer at least two weeks prior to installation.

When placing the polymer concrete nosing against concrete, the concrete surface shall be dry. For newly placed concrete, the concrete shall be fully cured and allowed to dry out a minimum of seven additional days prior to placement of the nosing. Cold, wet, inclement weather will require an extended drying time.

- a) Surface Preparation. All loose foreign material shall be removed. The substrate shall be structurally sound and sandblasted to be free of all foreign matter, grease, dirt, and laitance along the bottom and the sidewalls for all areas that will be in contact with the polymer concrete. Steel surfaces shall be cleaned to SSPC-SP10 surface preparation. After blast cleaning, the surfaces shall be blown clean of debris using clean compressed air at a minimum pressure of 620 kPa (90 psi). The bottom and sides of these areas shall then be primed as recommended by the manufacturer.
- b) Placement. The polymer concrete shall be mixed, placed and cured according to the manufacturer's written instructions. The materials shall be screeded level when appropriate. The material shall be tack free and firm to the touch before proceeding or opening to traffic as determined by the Engineer.

Method of Measurement. This work will be measured in cubic meters (cubic feet) of in-place polymer concrete.

Basis of Payment. This work will be paid for at the contract unit price per cubic meter (cubic foot) for POLYMER CONCRETE.

CHECK SHEET #24

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

Effective: January 1, 1990
Revised: January 1, 2000

Description. This work shall consist of furnishing, transporting, and placing controlled low-strength material (CLSM) which can subsequently be excavated with conventional digging equipment.

Materials. Materials shall be according to the following Articles of Section 1000 – Materials:

Item	Article/Section
(a) Portland Cement, Type 1	1001
(b) Water	1002
(c) Fine Aggregate–FA 1 or 2 Sand (Note 1)	1003.01(a)(c), 1003.04(b)
(d) Fly Ash	1010.02, 1010.03
(e) Admixtures (Note 2)	1021.01

Note 1: Blending fine aggregate materials will not be permitted.

Note 2: The air-entraining admixture may be in powder form. Prior to approval, a CLSM air-entraining admixture shall be evaluated in a field or laboratory experimental pour. The Engineer will verify the experiment. The department will maintain an Approved Air-Entraining Admixtures for CLSM list.

Equipment. Equipment shall be according to the following Articles of Section 1100 – Equipment:

Item	Article/Section
(a) Concrete Mixers.....	1103.01
(b) Batching and Weighing Equipment.....	1103.02, 1103.03
(c) Mobile Portland Cement Concrete Plants.....	1103.04
(d) Water Supply Equipment.....	1103.11

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Proportioning. The mix shall be Mix 1, 2, or 3 and yield approximately one cubic meter (cubic yard).

Mix 1	
Portland Cement	30 kg (50 lb)
Fly Ash – Class C or F	74 kg (125 lb)
Fine Aggregate – Saturated Surface Dry	1720 kg (2900 lb)
Water	248-322 L (50-65 gal)
Air Content	No air is entrained

Mix 2	
Portland Cement	74 kg (125 lb)
Fine Aggregate – Saturated Surface Dry	1483 kg (2500 lb)
Water	173-248 L (35-50 gal)
Air Content	15-25%

Mix 3	
Portland Cement	24 kg (40 lb)
Fly Ash – Class C or F	74 kg (125 lb)
Fine Aggregate – Saturated Surface Dry	1483 kg (2500 lb)
Water	179-248 L (35-50 gal)
Air Content	15-25%

Mix Design. A contractor may submit their own mix design and may propose alternate fine aggregate materials, fine aggregate gradations, or material proportions. The mix design shall meet the following criteria.

Mix Design Criteria	
Flow	≥ 178 mm (7 in.)
Air Content	0 – 25%
Dynamic Cone Penetrometer (DCP) at 3 days	≤ 39 mm/blow (1.5 in./blow)
Compressive Strength at 28 and 180 days	≥ 207 kPa (30 psi) to < 1034 kPa (150 psi)

The mix design shall include the following information:

- (1) Source of materials.
- (2) Gradation of fine aggregate.
- (3) Absolute volumes, specific gravities, unit weights, and any other values used in the mix design process.

- (4) Type and proposed dosage of admixtures.
- (5) Target flow and air content.
- (6) Test data indicating compressive strength at 28 and 180 days.

If the Contractor submits a mix design which has not been previously verified by the Department, a trial batch shall be required. The trial batch shall be scheduled a minimum of 30 calendar days prior to anticipated use, and shall be performed in the presence of the Engineer. A minimum of 0.75 cu m (1 cu yd) trial batch shall be produced and placed off site. The trial batch shall be produced with the equipment and methods intended for construction. The trial batch will be evaluated for temperature, flow, air content, DCP, and 28 day compressive strength by the Engineer.

Verification of the mix design will include the trial batch test results, field observations (i.e. flowability and solid suspension), and other criteria as determined by the Engineer. The Contractor will be notified in writing of verification. Verification of a mix design by the Engineer shall in no manner be construed as acceptance of any CLSM produced.

Test Methods. Sampling the freshly mixed flowable fill shall be performed according to Illinois Modified AASHTO T 141, except the elapsed time for obtaining the composite sample shall not exceed two minutes. The flow test shall start within five minutes of obtaining the composite sample. The molding of strength test specimens shall start within ten minutes of obtaining the composite sample.

The temperature test shall be according to Illinois Modified ASTM C 1064.

The flow test shall consist of filling a 76 mm (3 in.) inside diameter by 152 mm (6 in.) long plastic cylinder. The maximum variation from the normal inside diameter and length shall be 3 mm (1/8 in.). The plastic cylinder shall be smooth, rigid and open at both ends. The test method shall consist of placing the cylinder on a flat, level, firm surface which is free of vibration or other disturbances. The cylinder shall be firmly held in place and filled in one lift. The top of the cylinder shall be struck off to form a level surface while holding the cylinder in place. The cylinder shall be pulled straight up, and the approximate diameter of the mixture's spread shall be measured.

The air content test shall be according to Illinois Modified AASHTO T 121 or Illinois Modified AASHTO T 152, except the bowl shall be filled in one lift without vibration, rodding, or tapping.

The DCP test shall be according to the Department's test method.

The compressive strength test shall be according to Illinois Modified AASHTO T 22, except neoprene caps shall be used for compressive testing. Strength is defined

CHECK SHEET #24

as the average of two or more cylinder breaks. The 152 mm x 305 mm (6 in. x 12 in.) cylinders shall be made according to Illinois Modified AASHTO T 23, except the cylinders shall be filled in one lift without vibration, rodding, or tapping. When bleed water appears at the top of the mold after a few minutes, the mold shall be refilled. The curing method shall be modified by not removing the covered specimen from the mold until the time of testing. The cylinders shall be stored in a shaded area with a controlled temperature of 16 °C to 27 °C (60 °F to 80 °F).

Mixing and Mix Adjustments. The mix shall be produced according to Section 1020 of the Standard Specifications. Sufficient mixing capacity shall be provided to permit the placement without interruption. The mixer drum shall be emptied prior to initial batch to ensure that no additional cement fines are incorporated into the mix.

The Engineer reserves the right to adjust the proportion of materials in the field for flowability, to maintain solid suspension of the mix, and other criteria. No additional compensation will be paid to the Contractor for a mix adjustment.

CONSTRUCTION REQUIREMENTS

Placement. The mix shall not be placed on frozen ground, in standing water, or during wet weather conditions. Mixing and placing shall begin only if the air temperature is 2 °C (35 °F) minimum and rising. At time of placement, the material temperature shall be 5 °C (40 °F) minimum. Mixing and placing shall stop when the air temperature is 5 °C (40 °F) and falling.

The mix shall be placed directly from the chute into the space to be filled. Other placement methods may be approved by the Engineer if the mix design is appropriate.

When backfilling against structures, the mix shall be placed in layers to prevent damage by lateral pressures. Side slopes shall be stepped or serrated to prevent wedging action of the backfill against the structure. Each layer shall be allowed to harden prior to placing the next layer.

When backfilling pipe culverts, the mix shall be distributed evenly on each side of the pipe culvert to prevent movement. To prevent uplift of the pipe culvert, the first layer shall stop at one-fourth the height of the culvert. After settlement of the first layer, as determined by the Engineer, the second layer shall stop at one-half the height of the culvert. After settlement of the second layer, as determined by the Engineer, the remainder of the trench shall be filled. The mix may be placed in a single layer for portland cement pipe culverts.

The mix shall not be exposed to freezing temperatures or wet weather conditions during the first 24 hours after placement.

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Applied Load. The mix may be subjected to loading upon approval by the Engineer, or when a penetration of 39 mm/blow or less has been obtained with the DCP test.

Method of Measurement. This work will be measured for payment and the volume computed in cubic meters (cubic yards).

When CLSM is used for backfilling structures, the volume for payment will be measured in place, except the quantity for which payment will be made shall not exceed the volume computed according to Article 502.14(b) of the Standard Specifications, with a deduction for the volume of the structure. Any CLSM required in excess of the maximum quantity computed shall be furnished at the Contractor's expense.

When CLSM is used for backfilling pipe culverts or storm sewers, the volume for payment will be measured in place, except the quantity for which payment will be made shall not exceed the volume of the trench as computed by using the maximum width of trench according to Sections 542 and 550 of the Standard Specifications and the actual depth of the completed backfill above the top of the bedding materials, with a deduction for the volume of the pipe. Any material required in excess of the maximum quantity computed shall be furnished at the Contractor's expense.

Basis of Payment. This work will be paid for at the contract unit price per cubic meter (cubic yard) for CONTROLLED LOW-STRENGTH MATERIAL.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR PIPE UNDERDRAINS

Effective: September 9, 1987
Revised: January 1, 1998

This work shall be according to Section 601 of the Standard Specifications and Standard 601001 except CA 16 shall be used in lieu of FA 1 or FA 2 for trench backfill. The CA 16 shall be according to Article 1004.06 and Article 1004.01 of the Standard Specifications except in the table, Coarse Aggregate Gradation, the percent passing the 1.18 mm (No. 16) sieve shall be $4 \pm 4\%$. The trench shall be wrapped using a Fabric Envelope meeting the requirements of Section 1080 of the Standard Specifications.

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
GUARDRAIL AND BARRIER WALL DELINEATION

Effective: December 15, 1993
Revised: January 1, 1997

Description. This work shall consist of furnishing and installing reflectorized guardrail markers, bridge rail markers, or barrier wall markers complete with reflectors or reflective faces as specified, and terminal marker post, when specified.

Materials. Materials shall be according to the following:

- (a) Terminal Marker Post. The posts shall be according to Article 1006.29 of the Standard Specifications for Type C galvanized posts.

Hardware for attaching sign panels to posts shall be stainless steel and be according to Article 1006.29(d) of the Standard Specifications.

- (b) Terminal Markers.

- (1) Direct Applied Reflectorized Terminal Marker. Direct applied reflectorized terminal markers shall be fabricated using Type A or Type AP reflectorized sheeting. All materials used shall be according to Sections 1090 and 1091 of the Standard Specifications.

The sheeting shall be uniform in color throughout and be according to the latest appropriate standard color tolerance chart issued by the U.S. Department of Transportation, Federal Highway Administration of through instrumental color testing, the diffuse day color of the reflective material shall be according to Table 1.

TABLE 1
Color Specification Limits (Daytime)
Type AP

Color	1		2		3		4		Reflectance Limit Y(%)	
	X	Y	X	Y	X	Y	X	Y	Min.	Max.
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472	30	45
White	0.303	0.287	0.368	0.353	0.340	0.380	0.274	0.316	50	-

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The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1391 standard colorimetric system measured with standard illuminant D 65.

Type AP sheeting shall have the minimum values shown in Table 1091-2 for the type and color of material specified.

Type AP sheeting surface shall exhibit an 85 degree gloss-meter rating of not less than 50 when tested according to ASTM D 523.

The thickness of Type AP sheeting without protective liner shall not be more than 0.64 mm (0.025 in.).

- (2) Post Mounted Reflectorized Terminal Marker. Post mounted reflectorized markers shall be fabricated using a Type I Sign Panel complete with reflectorized sheeting. The reflectorized material shall be Type A or Type AP Sheeting. All materials used shall be according to Sections 1090 and 1091 of the Standard Specifications.

(c) Guardrail and Barrier Wall Markers.

- (1) Type A Reflector Marker. The reflectors shall conform to the requirements of Section 1097 of the Standard Specifications.

The steel mounting bracket utilized for attaching reflectors to guardrail shall be fabricated from 12 gauge (minimum) steel, and galvanized according to AASHTO M 111.

The steel banding utilized for attaching reflectors to bridge rail shall be 19 mm (3/4 in.) stainless steel banding.

- (2) Type B Reflector Marker. The reflectors shall be according to Section 1097 of the Standard Specifications.

The lexan mounting bracket shall be made of high impact lexan approved by the Department. The bracket shall be white or brown in color. Brown brackets shall be specified for use with weathering M 222 (M 222M) steel guardrail applications, and white brackets shall be specified for all other applications.

- (3) Type C Reflector Marker. Molded reflective surfaces, when used, shall be according to Section 1097 of the Standard Specifications, except subparagraph (d) shall not apply.

Flexible reflective sheeting faces, when used, shall be fabricated of either a weather resistant sealed microprismatic sheeting or a high-performance reflective sheeting meeting the minimum reflective values for incidence angles of -4 and +30 degrees for Type A sheeting as set

forth in Table 1091-2 of the Standard Specifications or the requirements for Type AP sheeting contained herein. The sheeting shall be manufactured by either 3M, Stimonsite, Reflexite, or an approved equivalent. The Contractor shall furnish written documentation from the sheeting manufacturer that the sheeting is approved as being compatible for use as a permanent reflector face. The sheeting shall adhere securely to the bracket at temperatures of -34°C to $+71^{\circ}\text{C}$ (-30°F to $+160^{\circ}\text{F}$) and shall not crack when struck at -23°C (-10°F).

The base material shall be fabricated from high impact thermoplastic, lexan, nylon, or other approved material which shall not shatter or crack under impact at temperatures of -34°C (-30°F).

CONSTRUCTION REQUIREMENTS

- (a) Terminal Marker Posts. The posts shall be driven by hand or mechanical means to a minimum depth of 900 mm (3 ft) and installed according to the details shown on the plans or as directed by the Engineer. The top of the post shall be 760 mm (30 in.) above ground. The post shall be protected by a suitable driving cap and if required by the Engineer, the material around the post shall be compacted after driving. The posts shall be vertical and oriented so the face of the terminal marker shall be at 90 degrees to the center line of the adjacent pavement.

Scratching, chipping, or other damage to the post shall be avoided during handling and installation. Chips and scratches may be recoated in the field by a method meeting the coating manufacturer's recommendation except chips and scratches totaling more than five percent of the surface area of any one post and/or more than five percent of the surface area in 305 mm (1 ft) segment of any one post shall be cause for rejection of the post.

- (b) Terminal Markers.

- (1) Direct Applied Reflectorized Terminal Marker. The direct applied reflectorized guardrail terminal markers shall be installed directly on the guardrail nose. The marker shall be installed as shown on the plans and directly to the guardrail terminal end. The surface of the guardrail terminal end shall be cleaned of all contaminants prior to the installation of the terminal marker. The surface shall be cleaned using a 5-8 percent phosphoric acid solution and rinsed with clean water or as recommended by the manufacturer of the direct applied terminal marker sheeting and as approved by the Engineer.

- (2) Post Mounted Reflectorized Terminal Marker. Post mounted reflectorized terminal markers shall be installed on terminal marker

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posts. A minimum of two bolts per post shall be required for reflectorized terminal marker panel attachment.

(c) Guardrail and Barrier Wall Markers.

- (1) Type A Reflector Marker. Type A reflector marker shall be installed on guardrail or bridgerail as shown on the plans. When installed on guardrail, bolts for fastening will be required. The bolt-on guardrail marker shall consist of one or two round prismatic reflectors as specified attached to a steel mounting bracket. The reflector(s) shall be securely fastened to the bracket with an aluminum rivet. When used with "W" section guardrail, it shall be attached by loosening a guardrail bolt, then slipping the slotted bracket under the head of the bolt and retightening the bolt.

Type A Reflective Markers shall be used on oval or circular bridge rails. The marker shall be attached to the bridge rail using stainless steel banding.

The face of the marker shall be vertical and oriented so the reflector face shall be at 90 degrees to the centerline of the guardrail web, or to the centerline of the bridge rail.

- (2) Type B Reflector Marker. Type B reflector marker shall be installed on the concrete barrier wall or guardrail, as shown on the plans, using an adhesive. The direct applied marker shall consist of one or two round prismatic reflectors as specified attached to a lexan mounting bracket. The locations for mounting the markers on barrier walls shall be as directed by the Engineer.

The surface of the guardrail or the barrier/bridge parapet wall to which the marker is to be applied shall be free of foreign matter and any material which would adversely affect the bond of the adhesive. Cleaning of the surfaces shall be to the satisfaction of the Engineer.

An adhesive meeting the reflector unit manufacturer's specifications shall be placed either on the surface or the bottom of the marker in sufficient quantity to ensure complete coverage of the contact area with no voids present and with a slight excess after the marker is pressed firmly in place.

The face of the marker shall be vertical and oriented so the reflector face shall be at 90 degrees to the centerline of the guardrail web, or to the surface of the barrier.

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- (3) Type C Reflector Marker. Type C reflector marker shall be installed on concrete barrier wall as shown on the plans. The direct applied barrier wall marker shall consist of one or two reflective surfaces as specified applied to a base fabricated of suitable material.

Basis of Payment. This work will be paid for at the contract unit price each for TERMINAL MARKER-DIRECT APPLIED, TERMINAL MARKER-POST MOUNTED, TERMINAL MARKER POSTS; and GUARDRAIL MARKERS and BARRIER WALL MARKERS of the types and lens color specified.

The cost of work and material involved to perform any necessary alterations to the embedment length of the terminal marker post shall be included in the contract unit price bid for Terminal Marker Posts.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR BICYCLE RACKS

Effective: April 1, 1994
Revised: January 1, 1997

Description. This work shall consist of furnishing and installing bicycle racks.

Materials. The bicycle rack shall be fabricated from steel pipe, NPS 2, Schedule 40, according to ASTM A 53. The steel pipe shall be a continuous piece as shown on the plans. The steel pipe shall not be welded in sections. Only the base plate shall be welded to the steel pipe.

Fastener. Expansion anchors shall be stainless steel mushroom head spikes 13 mm (1/2 in.) diameter x 100 mm (4 in.) long according to ASTM A 193.

Base plates shall be 10 mm (3/8 in.) thick steel and according to ASTM A 36M (A 36). Base plates shall be galvanized according to ASTM A 153.

Concrete Pad. The pad shall be Class SI, portland cement concrete according to Section 1020 and curing materials shall be according to Section 1021 of the Standard Specifications.

Submittals. The Contractor shall submit to the Department the following items before construction begins:

- (a) Bicycle Rack -- shop drawings or product data.
- (b) Fastener -- product data.
- (c) Certifications -- submit manufacturer's certification that the pipe and coatings meet the project specifications.
- (d) Samples -- Three 300 mm (12 in.) long samples of the pipe with finish coat and three fasteners.

CONSTRUCTION REQUIREMENTS

Coating of Bicycle Racks. The steel pipe and the base plate shall be coated as specified below. Color of the coating shall be black. The coating shall be applied

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only after the steel pipe and base plate have been fabricated. The final product shall not contain cracks in the coating, ripples in the curved areas, nor any damage due to fabrication and or shipping.

- (a) Steel shall be shot blast to near white steel and then an iron phosphate pre-treatment shall be applied.
- (b) Primer shall be a thermosetting epoxy powder coating (Corvel Zinc Gray 13-7004 or approved equal) electrostatically applied and cured six minutes at 121 °C (250 °F). The primer thickness shall be 45 – 250 µm (1.8-10 mils).
- (c) Topcoat shall be triglycidly isocyanurate (TGIC) polyester powder coating, electrostatically applied and cured in an oven for 20 minutes at (121 °C) (250 °F). The total of all the coatings shall be 200-250 µm (8-10 mils).

Concrete Pad. Prior to construction of a concrete pad, the Engineer shall designate the final location, elevation, and dimensions of the pad. Excavation required for the construction of the pad may require removal of existing concrete or asphalt. The excavated area shall be compacted to the satisfaction of the Engineer. A minimum of 150 mm (6 in.) of CA-6 according to Article 1004.04 of the Standard Specifications, shall be placed and compacted. The concrete pad shall be 140 mm (5 1/2 in.) thick. Forming and concrete placement shall be according to Section 420 of the Standard Specifications. The site shall be left in a broom clean condition.

Fastening. The bicycle rack shall be surface mounted on concrete with expansion anchors only after concrete has been cured.

Basis of Payment. This work will be paid for at the contract unit price each for BICYCLE RACKS of the type specified.

When asphalt or concrete removal is required it will be considered included in the cost of the bicycle rack.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR GIVE EM A BRAKE SIGN

Effective: August 1, 1989
Revised: August 1, 1991

Give 'em a BRAKE Campaign Sign. This work shall consist of furnishing and erecting two 1200 mm x 1200 mm (48 in. x 48 in.) "Give 'em a BRAKE" warning signs (W-21-I109) in addition to the work zone signing required by the applicable traffic control plan and standards utilized for this project. The sheeting shall be Type B. On two-lane highways, these signs shall be erected midway between the first and second warning signs. Two of these signs shall be erected 300 m (1,000 ft) in advance of the RIGHT (LEFT) LANE CLOSED (1/2 MILE) signs on multilane highways. The signs shall remain in place for the duration of the project. Camera-ready artwork for the signs will be provided to sign manufacturing companies upon request (artwork may be obtained from the Central Bureau of Operations at (217)782-3450).

The cost of furnishing, erecting, and removing these signs shall be included in the cost of Traffic Control items as shown on the plans.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
PORTABLE CHANGEABLE MESSAGE SIGNS**

Effective: November 1, 1993
Revised: February 1, 1996

This work consists of furnishing, placing, and maintaining changeable message sign(s) at the locations(s) shown on the plans or as directed by the Engineer.

The sign(s) shall be trailer mounted. The message panel shall be at least 2.1 m (7 ft) above the pavement, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. Character height shall be 450 mm (18 in.).

The message panel shall be of either a bulb matrix or disc matrix design controlled by an onboard computer capable of storing a minimum of 99 programmed messages for instant recall. The computer shall also be capable of being programmed to accept messages created by the operator via an alpha-numeric keyboard and able to flash any six messages in sequence. The Contractor is required to promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The message panel shall be visible from 400 m (1/4 mile) under both day and night conditions. The letters shall be legible from 250 m (750 ft). Whenever the sign(s) are displaying messages, they shall be considered a traffic control device. At all times when no message is displayed, they shall be considered equipment.

The message sign shall include automatic dimming for nighttime operation and a power supply capable of providing 24 hours of uninterrupted service.

The Contractor is required to provide all preventive maintenance efforts s(he) deems necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer shall cause such work to be performed as may be necessary to provide this service. The cost of such work shall be borne by the Contractor or deducted from current or future compensation due Contractor.

The furnishing, placing, and maintaining of Portable Changeable Message Sign(s) shall be paid for per calendar month for each sign as CHANGEABLE MESSAGE SIGN.

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Reserved

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
NIGHT TIME INSPECTION OF ROADWAY LIGHTING**

Effective: May 1, 1996

The Contractor shall provide traffic control and protection for the night time inspection of the roadway lighting as shown in the contract. Any fixtures found not to be aimed to provide optimum lighting on the roadway during the night time inspection shall be re-aimed to optimum during the inspection. Any work necessary for re-aiming shall not be paid for separately but, shall be included in the cost of the highway lighting bid items.

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Reserved

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
ENGLISH SUBSTITUTION OF METRIC BOLTS

Effective: July 1, 1996

This special provision consists of giving the Contractor the option of replacing metric size bolts with English size bolts.

For ASTM A 325M and AASHTO M 164M, the following substitutions will be allowed:

Metric Bolt Diameter (mm)	English Substitution Diameter (in.)
M16	5/8
M22	7/8
M27	1-1/8
M30	1-1/4

A 3/4 inch diameter bolt may be substituted for a M20 bolt only on connections for straight multi-girder systems, detailed with over-sized holes.

For ASTM A 307, the following substitutions will be allowed:

Metric Bolt Diameter (mm)	English Substitution Diameter (in.)
M24	1
M30	1-1/4
M36	1-1/2
M48	2
M64	2-1/2

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State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
ENGLISH SUBSTITUTION OF METRIC REINFORCEMENT BARS

Effective: April 1, 1996
Revised: January 1, 2003

Description. This special provision consists of giving the Contractor the option of replacing metric reinforcement bars as shown on the plans with English size reinforcement bars or metric size bars which have been soft converted. Soft Conversion is an exact conversion to the nearest millimeter.

Reinforcement for Structures.

A metric reinforcement bar shown on the plans may be replaced bar for bar with the next size English bar or soft converted metric reinforcement bar of equal or greater cross-sectional area. The exception is the #5 English bar or #16 soft converted metric bar may be substituted bar for bar for the #15 metric bar shown on the plans.

For slab bridges and slabs of culverts, re-evaluation of the slab design will be required prior to any reinforcement bar substitutions. The Contractor shall submit the design to the Bridge Office for approval.

Metric Size Shown on the Plans	Area sq mm
#10	100
#15	200
#20	300
#25	500
#30	700
#35	1000
#45	1500

English Size	Metric Size Soft Converted (ASTM A 615 m - 96a)	Area sq mm
#4	#13	127
#5	#16	198
#7	#22	388
#8	#25	507
#10	#32	817
#11	#36	1007
#18	#57	2581

Reinforcement for Pavement.

For English substitution of metric bars in pavements and appurtenances the Contractor may use the given English sizes shown on the Standards or metric size bars which have been soft converted, as shown in this specification.

Basis of Payment. No additional payment will be made for any additional weight of steel furnished in substituting English size reinforcement bars or metric size reinforcement which have been soft converted for metric bars shown on the plans.

CHECK SHEET #35

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
POLYMER MODIFIED EMULSIFIED ASPHALT

Effective: May 15, 1989
Revised: January 1, 2004

This Special Provision designates Cationic Rapid Setting (CRSP) and Anionic High Float (HFP) polymer modified emulsions to be used for surface treatments. Selection should be based on compatibility tests performed by the emulsion manufacturer with the actual job aggregate. The base asphalt cement is modified with polymer and this blend is then emulsified. To insure polymer addition occurs prior to emulsification, the Department may at any time obtain samples of the polymerized asphalt cement. These samples must pass the same elastic recovery test shown herein for the emulsion residue, or the supplier will be considered out of compliance.

TESTS ON EMULSION:

	CRSP	HFP
Viscosity, 50 °C (122 °F), SFS	100-400	50 min.
Storage Stability Test 24 hour, % Upon examination of the test cylinder after standing undisturbed for 24 hours, the surface shall show no white, milky colored substance but shall be a homogeneous brown throughout.	1 max.	1 max.
Particle Charge Test	Positive	Negative
Sieve Test, %	0.1 max.	0.1 max.
Demulsibility, 0.02N CaCl ₂ , %	N/A	30 min.
Distillation, 190 ±5 °C: Oil distillate by vol. of emulsion, % Residue from distillation, %	3 max. 65 min.	3 max. 65 min.

CHECK SHEET #35**TESTS ON RESIDUE FROM DISTILLATION:**

	CRSP	HFP
Penetration, 25 °C (77 °F), 100 g, 5 sec.	100-200	100-200
Ductility, 4 °C (39.2 °F), mm	300 min.	300 min.
Elastic Recovery, 4 °C (39.2°F), % ^{1/}	50 min.	50 min.
Float Test, 60 °C (140 °F) sec	N/A	1200 min.

- 1/ The ELASTIC RECOVERY TEST shall be performed according to AASHTO T 301.

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State of Illinois
Department of Transportation

SPECIAL PROVISION FOR CORROSION INHIBITOR

Effective: March 1, 1980

Revised: July 1, 1999

This Special Provision modifies Articles 1020.05(b) and 1021.01 of the Standard Specifications.

When specified, a corrosion inhibitor, at the rate specified below, shall be added to the concrete mixture utilized in manufacturing precast, prestressed concrete members and/or other applications. It shall be added, at that same rate, to all grout around post-tensioning steel when specified.

The corrosion inhibitor shall be one of the following types:

- (a) Calcium Nitrite. Calcium nitrite, minimum 30 percent by mass (weight), shall be added at the rate of 20 L/cu m (4 gal/cu yd).

The calcium nitrite shall be added to the mix immediately after all compatible admixtures have been introduced to the batch.

- (b) Rheocrete 222+. Rheocrete 222+ shall be added at the rate of 5.0 L/cu m (1.0 gal/cu yd) and the batching sequence shall be according to the manufacturer's instructions.

The Department will maintain an approved list.

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
QUALITY CONTROL OF CONCRETE MIXTURES AT THE PLANT - SINGLE A**

Effective: August 1, 2000
Revised: January 1, 2004

Description. This Special Provision specifies the quality control responsibilities of the Contractor at the plant, for portland cement concrete mixtures, cement aggregate mixture II and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

The Contractor, by application for and receipt of prequalification, by submission of a bid and, if awarded the contract, by execution of the contract containing this Special Provision, certifies that it fully and thoroughly understands all aspects and requirements of this Special Provision; that it possesses the latest edition of and thoroughly understands all aspects and requirements of the procedures, manuals and documents referred to and incorporated by reference in this Special Provision; and that it waives and releases any and all claims of misunderstanding or lack of knowledge of the same. Furthermore, the Contractor understands and agrees that compliance with the requirements of this Special Provision and the Quality Control Plan approved by the Engineer is an essential element of the contract. Failure to comply with these requirements can result in one or more of the following: a major breach of this contract and default thereof, a loss of prequalification and a suspension of the Contractor from bidding.

A list of quality control/quality assurance (QC/QA) documents is provided in Schedule B.

Materials. For concrete, aggregates (except finely divided minerals) shall be produced according to the Department's Policy Memorandum "Aggregate Gradation Control System". Gradations other than those in the Standard Specifications may be used if produced according to the Department's "Aggregate Gradation Control System".

For controlled low-strength material, the Department's "Aggregate Gradation Control System" will not apply.

Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing, as required in Schedule A.

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer at the beginning of each construction season or each 12 month period. Production of a mixture shall not begin until the Engineer provides written approval of the laboratory.

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The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" form.

The Engineer will have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

Plant/Delivery Trucks. The concrete plant and delivery trucks shall be approved according to the Department's Policy Memorandum "Approval of Concrete Plants and Delivery Trucks."

Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan, Part 2, to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material at the plant. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

Plant Quality Control by Contractor. At the plant, the Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

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When a mixture does not comply with specifications, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

- (a) **Personnel Requirements.** The Contractor shall provide sufficient personnel to perform the required inspections, sampling, testing, and documentation in a timely manner. A Quality Control (QC) Manager will not be required. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

A Concrete Tester may provide assistance with sampling and testing, and shall be supervised by a Level I or Level II PCC Technician.

- (b) **Required Plant Tests.** Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Schedule A.

Plant Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples at the plant, for slump and air content. The testing frequency will be determined by the Engineer. The Engineer will perform the testing throughout the period of quality control testing by the Contractor. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. The results of all quality assurance tests by the Engineer will be made available to the Contractor as soon as they are completed.

- (a) **Comparing Test Results.** Differences between the Engineer's and the Contractor's split sample test results will not be considered extreme if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	20 mm (0.75 in.)
Air Content	0.9%

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(b) Test Results. If either the Engineer's or the Contractor's split sample test result is not within specification limits, and the other party is within specification limits; immediate retests on a split sample shall be performed for slump or air content. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump or air content split sample retest result is a failure, and the other party is within specification limits; the following actions shall be initiated:

- (1) The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.
- (2) The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.
- (3) The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate. The investigation shall be according to (1), (2) and (3).

Jobsite Acceptance Testing by the Engineer. The Engineer will perform acceptance testing at the jobsite for slump, air content, and strength.

Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:

- (a) The Contractor's compliance with all contract documents for quality control.
- (b) Comparison of the Engineer's jobsite acceptance test results with specification limits, using samples independently obtained by the Engineer.
- (c) Validation of Contractor plant quality control test results by comparison with the Engineer's quality assurance test results using split samples.
- (d) Comparison of the Engineer's plant quality assurance test results with specification limits using samples independently obtained by the Engineer.

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (a), (b), (c) and (d).

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Documentation. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Engineer will be responsible for completing form MI 504 M, form MI 654 and form MI 655.

Basis of Payment. Quality Control of Concrete Mixtures at the Plant will not be paid for separately, but shall be considered as included in the cost of the various types of concrete mixtures required to construct the work items included in the contract.

SCHEDULE A

CONTRACTOR PLANT SAMPLING AND TESTING — SINGLE A			
Item	Test	Frequency	IL Modified AASHTO, IL Modified ASTM, or Department Test Method ^{1/}
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture: ^{2/} Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pycnometer Jar or T 255
	Moisture: ^{2/} Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pycnometer Jar or T 255
Mixture ^{3/}	Slump, Air Content, Unit Weight / Yield, and Temperature	As needed to control production	T 141 and T 119 T 141 and T 152 or T 196 T 141 and T 121 T 141 and ASTM C 1064

- 1/ Refer to the Department's "Manual of Test Procedures for Materials".
- 2/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests, using the Dunagan or Illinois Modified AASHTO T 255 test method. The Department's "Water/Cement Ratio Worksheet" form shall be completed when applicable.
- 3/ The Contractor may also perform aggregate gradation testing according to Illinois Modified AASHTO T 2, T 11, T 27 and T 248; strength testing according to Illinois Modified AASHTO T 141, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318; or other tests at the plant to control mixture production.

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SCHEDULE B

IDOT CONCRETE QUALITY CONTROL DOCUMENTS

- (a) Model Quality Control Plan for Concrete Production (*)
- (b) Qualifications and Duties of Concrete Quality Control Personnel (*)
- (c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)
- (d) Required Sampling and Testing Equipment for Concrete (*)
- (e) Calibration of Concrete Testing Equipment (*)
- (f) Water/Cement Ratio Worksheet (*)
- (g) Manual of Instructions for Design of Concrete Mixtures
- (h) Aggregate Technician Course Workbook
- (i) Portland Cement Concrete Tester Course Manual
- (j) Portland Cement Concrete Level I Technician Course Manual
- (k) Portland Cement Concrete Level II Technician Course Manual
- (l) Manual of Test Procedures for Materials

* Refer to the Manual of Test Procedures for Materials

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
QUALITY CONTROL OF CONCRETE MIXTURES AT THE PLANT - DOUBLE A**

Effective: August 1, 2000

Revised: January 1, 2004

Description. This Special Provision specifies the quality control responsibilities of the Contractor at the plant, for portland cement concrete mixtures, cement aggregate mixture II, and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

The Contractor, by application for and receipt of prequalification, by submission of a bid and, if awarded the contract, by execution of the contract containing this Special Provision, certifies that it fully and thoroughly understands all aspects and requirements of this Special Provision; that it possesses the latest edition of and thoroughly understands all aspects and requirements of the procedures, manuals and documents referred to and incorporated by reference in this Special Provision; and that it waives and releases any and all claims of misunderstanding or lack of knowledge of the same. Furthermore, the Contractor understands and agrees that compliance with the requirements of this Special Provision and the Quality Control Plan approved by the Engineer is an essential element of the contract. Failure to comply with these requirements can result in one or more of the following: a major breach of this contract and default thereof, a loss of prequalification and a suspension of the Contractor from bidding.

A list of quality control/quality assurance (QC/QA) documents is provided in Schedule C.

Materials. For concrete, aggregates (except finely divided minerals) shall be produced according to the Department's Policy Memorandum "Aggregate Gradation Control System". Gradations other than those in the Standard Specifications may be used if produced according to the Department's "Aggregate Gradation Control System".

For controlled low-strength material, the Department's "Aggregate Gradation Control System" will not apply.

Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing, as required in Schedule A.

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer at the beginning of each construction season or each 12 month period. Production of a mixture shall not begin until the Engineer provides written approval of the laboratory.

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The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" form.

The Engineer shall have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

Plant/Delivery Trucks. The concrete plant and delivery trucks shall be approved according to the Department's Policy Memorandum "Approval of Concrete Plants and Delivery Trucks".

Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan, Part 2, to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material at the plant. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

Plant Quality Control by Contractor. At the plant, the Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

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When a mixture does not comply with specifications, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

- (a) Personnel Requirements. The Contractor shall provide sufficient personnel to perform the required inspections, sampling, testing, and documentation in a timely manner. A Quality Control (QC) Manager will not be required. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

A Concrete Tester may provide assistance with sampling and testing, and shall be supervised by a Level I or Level II PCC Technician.

- (b) Required Plant Tests. Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Schedule A.

Plant Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples at the plant. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. Aggregate split samples shall be retained until permission is given by the Engineer for disposal. The results of all quality assurance tests by the Engineer will be made available to the Contractor as soon as they are completed. The Engineer's quality assurance independent sample and split sample testing is indicated in Schedule B.

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- (a) Comparing Test Results. Differences between the Engineer's and the Contractor's split sample test results will not be considered extreme if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	20 mm (0.75 in.)
Air Content	0.9%
Aggregate Gradation	See "Guideline for Sample Comparison" in Appendix "A" of the Manual of Test Procedures for Materials.

- (b) Test Results. If either the Engineer's or the Contractor's split sample test result is not within specification limits, and the other party is within specifications limits; immediate retests on a split sample shall be performed for slump, air content, or aggregate gradation. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump, air content, or aggregate gradation split sample retest result is a failure, and the other party is within specification limits; the following actions shall be initiated:

- (1) The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.
- (2) The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.
- (3) The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.
- (4) For aggregate gradation, if the failing test result is not resolved according to (1), (2), or (3), and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

For aggregate gradation, if the result of a quality assurance test on a sample independently obtained by the Engineer is not within specification limits, and the mixture has not been placed, the Contractor shall reject the material, unless the Engineer accepts the material for incorporation in the work, according to Article 105.03.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate. The investigation shall be according to (1), (2) and (3).

Jobsite Acceptance Testing by the Engineer. The Engineer will perform acceptance testing at the jobsite for slump, air content, and strength.

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Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:

- (a) The Contractor's compliance with all contract documents for quality control.
- (b) Comparison of the Engineer's jobsite acceptance test results with specification limits, using samples independently obtained by the Engineer.
- (c) Validation of Contractor plant quality control test results by comparison with the Engineer's quality assurance test results using split samples.
- (d) Comparison of the Engineer's plant quality assurance test results with specification limits using samples independently obtained by the Engineer.

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (a), (b), (c), and (d).

Documentation. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Department's form MI 504M shall be completed by the Contractor, and shall be submitted to the Engineer weekly or as required by the Engineer. A correctly completed Form MI 504M is required to authorize payment by the Engineer, for applicable pay items.

The Engineer will be responsible for completing form MI 654 and form MI 655.

Basis of Payment. Quality Control of Concrete Mixtures at the Plant will not be paid for separately, but shall be considered as included in the cost of the various types of concrete mixtures required to construct the work items included in the contract.

CHECK SHEET #38**SCHEDULE A**

CONTRACTOR PLANT SAMPLING AND TESTING — DOUBLE A			
Item	Test	Frequency	IL Modified AASHTO, IL Modified ASTM, or Department Test Method ^{1/}
Aggregates (Arriving at Plant)	Gradation ^{2/}	As needed to check source for each gradation number	T 2, T 11, T 27 and T 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Gradation ^{2/}	1,900 cu m (2,500 cu yd) for each gradation number ^{3/}	T 2, T 11, T 27 and T 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture: ^{4/} Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pycnometer Jar or T 255
	Moisture: ^{4/} Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pycnometer Jar or T 255
Mixture ^{5/}	Slump, Air Content, Unit Weight / Yield, and Temperature	As needed to control production	T 141 and T 119 T 141 and T 152 or T 196 T 141 and T 121 T 141 and ASTM C 1064

- 1/ Refer to the Department's "Manual of Test Procedures for Materials".
- 2/ The first test and every third test thereafter shall be washed. Testing shall be completed no later than 24 hours after the aggregate has been sampled.
- 3/ One per week (Sunday through Saturday) minimum. One per day minimum if pouring bridge deck.
- 4/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests, using the Dunagan or Illinois Modified AASHTO T 255 test method. The Department's "Water/Cement Ratio Worksheet" form shall be completed when applicable.
- 5/ The Contractor may also perform strength testing according to Illinois Modified AASHTO T 141, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318; or other tests at the plant to control mixture production.

SCHEDULE B

ENGINEER QUALITY ASSURANCE INDEPENDENT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins, Slump and Air Content	As determined by the Engineer.

ENGINEER QUALITY ASSURANCE SPLIT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per aggregate gradation number and per plant.
	Slump and Air Content	As determined by the Engineer.

- 1/ The Engineer will perform the testing throughout the period of quality control testing by the Contractor.
- 2/ The Engineer will witness, a minimum of one a month, the split sample obtained by the Contractor.

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SCHEDULE C

IDOT CONCRETE QUALITY CONTROL DOCUMENTS

- (a) Model Quality Control Plan for Concrete Production (*)
- (b) Qualifications and Duties of Concrete Quality Control Personnel (*)
- (c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)
- (d) Required Sampling and Testing Equipment for Concrete (*)
- (e) Calibration of Concrete Testing Equipment (*)
- (f) Water/Cement Ratio Worksheet (*)
- (g) Field/Lab Gradations (Form MI 504M)
- (h) Manual of Instructions for Design of Concrete Mixtures
- (i) Aggregate Technician Course Workbook
- (j) Portland Cement Concrete Tester Course Manual
- (k) Portland Cement Concrete Level I Technician Course Manual
- (l) Portland Cement Concrete Level II Technician Course Manual
- (m) Manual of Test Procedures for Materials

* Refer to the Manual of Test Procedures for Materials

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES**

Effective: April 1, 1992
Revised: January 1, 2004

Description. This special provision specifies the quality control responsibilities of the Contractor, for portland cement concrete mixtures, cement aggregate mixture II, and controlled low-strength material incorporated in the project, and defines the quality assurance and acceptance responsibilities of the Engineer.

The Contractor, by application for and receipt of prequalification, by submission of a bid and if awarded the contract, by execution of the contract containing this special provision, certifies that he/she: fully and thoroughly understands all aspects and requirements of this special provision; possesses the latest edition of and thoroughly understands all aspects and requirements of the procedures, manuals and documents referred to and incorporated by reference in this special provision; and waives and releases any and all claims of misunderstanding or lack of knowledge of the same. Furthermore, the Contractor understands and agrees that compliance with the requirements of this special provision and the Quality Control Plan approved by the Engineer is an essential element of the contract. Failure to comply with these requirements can result in one or more of the following: a major breach of this contract and default thereof, a loss of prequalification and a suspension of the Contractor from bidding.

A list of quality control/quality assurance (QC/QA) documents is provided in Schedule D.

Materials. For concrete, aggregates (except finely divided minerals) shall be produced according to the Department's Policy Memorandum "Aggregate Gradation Control System". Gradations other than those in the Standard Specifications may be used if produced according to the Department's "Aggregate Gradation Control System".

For controlled low-strength material, the Department's "Aggregate Gradation Control System" will not apply.

Equipment/Laboratory. The Contractor shall provide a laboratory and test equipment to perform their quality control testing.

The laboratory shall be of sufficient size and be furnished with the necessary equipment, supplies, and current published test methods for adequately and safely performing all required tests. The laboratory will be approved by the Engineer at the beginning of each construction season or each 12 month period. Production of a mixture shall not begin until the Engineer provides written approval of the laboratory.

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The Contractor shall refer to the Department's "Required Sampling and Testing Equipment for Concrete" for equipment requirements.

Test equipment shall be maintained and calibrated as required by the appropriate test method, and when required by the Engineer. This information shall be documented on the Department's "Calibration of Concrete Testing Equipment" form.

Test equipment used to determine compressive or flexural strength shall be calibrated each 12 month period by an independent agency, using calibration equipment traceable to the National Institute of Standards and Technology (NIST). The Contractor shall have the calibration documentation available at the test equipment location.

The Engineer will have unrestricted access to the plant and laboratory at any time to inspect measuring and testing equipment, and will notify the Contractor of any deficiencies. Defective equipment shall be immediately repaired or replaced by the Contractor.

Plant/Delivery Trucks. The concrete plant and delivery trucks shall be approved according to the Department's Policy Memorandum "Approval of Concrete Plants and Delivery Trucks."

Quality Control Plan. The Contractor shall submit, in writing, a proposed Quality Control (QC) Plan to the Engineer. The QC Plan shall be submitted a minimum of 45 calendar days prior to the production of a mixture. The QC Plan shall address the quality control of the concrete, cement aggregate mixture II, and controlled low-strength material incorporated in the project. The Contractor shall refer to the Department's "Model Quality Control Plan for Concrete Production" to prepare a QC Plan. The Engineer will respond in writing to the Contractor's proposed QC Plan within 15 calendar days of receipt.

Production of a mixture shall not begin until the Engineer provides written approval of the QC Plan. The approved QC Plan shall become a part of the contract between the Department and the Contractor, but shall not be construed as acceptance of any mixture produced.

The QC Plan may be amended during the progress of the work, by either party, subject to mutual agreement. The Engineer will respond in writing to a Contractor's proposed QC Plan amendment within 15 calendar days of receipt. The response will indicate the approval or denial of the Contractor's proposed QC Plan amendment.

Mix Design Requirements. The Contractor shall provide the concrete, cement aggregate mixture II, and controlled low-strength material mix designs to the Engineer, a minimum of 45 calendar days prior to production. The mix design shall meet all the criteria specified in the contract. More than one mix design may be submitted for each class or use. The Department's "Manual of Instructions for Design of Concrete Mixtures", the design method for cement aggregate mixture II according

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to Article 312.31 of the Standard Specifications, or other methods may be used to provide a mix design.

The Contractor may request to use a concrete, cement aggregate mixture II, or controlled low-strength material mix design previously verified by the Engineer. The Engineer will review the mix design from the Department's historical test data for verification.

The Contractor may request to use a new concrete or cement aggregate mixture II mix design. The Contractor shall provide the following: the source of all materials; the gradation of fine and coarse aggregates; the absolute volumes, specific gravities, unit weights, water/cement ratio, mortar factor, and any other values used in the mix design process; the type and proposed dosage of admixtures; and the target slump, air content and strength for the new mix design. The new mix design will be evaluated for verification from test information provided by the Contractor, testing performed by the Department, and other criteria determined by the Engineer. The Contractor will be notified in writing upon verification of the new mix design by the Engineer.

The Contractor may request to use a new controlled low-strength material mix design. The required mix design information, evaluation, and verification shall be according to the controlled low-strength material specification.

Verification of a concrete, cement aggregate mixture II, or controlled low-strength material mix design shall in no manner be construed as acceptance of any mixture produced. The Engineer shall be notified in writing of any proposed changes, subsequent to verification of a mix design.

Tests performed at the jobsite will determine if a concrete, cement aggregate mixture II, or controlled low-strength material mix design can meet specifications. The Contractor shall make adjustments to a mix design, or submit a new mix design if necessary, to comply with the specifications.

For any concrete mix design method selected, a new mix design will be required if the mortar factor changes ± 0.05 or more from its original value, or if it exceeds the maximum value in Article 1020.05(d) of the Standard Specifications. For the Department's concrete mix design method, a new mix design will also be required when the mortar factor exceeds the specified limits. The mortar factor limits for the Department's mix design method are specified in the most current edition of the "Portland Cement Concrete Level II Technician Course" manual, effective on the date of advertisement for bids.

- (a) Concrete Strength Test Data. If the Contractor requests to use a new concrete mix design, strength test data shall be provided to the Engineer.

Upon review of the strength test data provided by the Contractor, the Engineer may request the Contractor to provide a trial mixture. The trial mixture shall be performed in the presence of the Engineer, and the Engineer will perform all tests. The volume of the trial mixture shall be a

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minimum of 0.76 cu m (1 cu yd). For the trial mixture, the slump shall be within 13 mm (1/2 in.) and the air content within 1.0 percent of the mix design target values. Strength will be determined at 3, 7 and 14 days, or at other days determined by the Engineer. Strength will be determined as the average of a minimum of three cylinder breaks. Testing will be performed according to Illinois Modified AASHTO T 22, T 23, T 119, T 141, and T 152 or T 196.

- (b) Concrete Durability Test Data. If the Contractor requests to use a new concrete mix design, durability test data may be required by the Engineer. Durability test data may be necessary because of a new material source, the gradation of aggregates, the proposed proportioning of materials, the proposed mortar factor, or other criteria determined by the Engineer. Durability tests shall be performed by an independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory (CCRL) of the National Institute of Standards and Technology (NIST). Durability test data shall consist of the following:
- (1) The new concrete mix design shall be tested according to AASHTO T 161, Procedure A or B. When measuring the test specimens, a temperature of $23 \pm 1^{\circ}\text{C}$ ($73 \pm 1^{\circ}\text{F}$) shall be used. The new concrete mix design shall have a relative dynamic modulus of elasticity which is 80 percent of the initial modulus, after 300 cycles.
 - (2) The new concrete mix design shall be tested according to Illinois Modified ASTM C 672.
- (c) Cement Aggregate Mixture II Test Data. If the Contractor requests to use a new cement aggregate mixture II mix design, durability test data shall be provided to the Engineer. The durability test shall be performed by an independent laboratory regularly inspected by CCRL of NIST. The new cement aggregate mixture II mix design shall be tested according to AASHTO T 161, Procedure A or B. When measuring the test specimens, a temperature of $23 \pm 1^{\circ}\text{C}$ ($73 \pm 1^{\circ}\text{F}$) shall be used. The new cement aggregate mixture II mix design shall have a relative dynamic modulus of elasticity which is 80 percent of the initial modulus, after 100 cycles.

Quality Control by Contractor. The Contractor shall perform quality control inspection, sampling, testing, and documentation to meet contract requirements. Quality control includes the recognition of obvious defects and their immediate correction. Quality control also includes appropriate action when passing test results are near specification limits. Quality control may require increased testing, communication of test results to the plant or the jobsite, modification of operations, suspension of mixture production, rejection of material, or other actions as appropriate. The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported no later than the start of the next work day.

When a mixture does not comply with specifications, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work, according to Article 105.03 of the Standard Specifications.

- (a) **Personnel Requirements.** The Contractor shall provide a Quality Control (QC) Manager who will have overall responsibility and authority for quality control. The Contractor shall provide sufficient personnel to perform the required inspections, sampling, testing and documentation in a timely manner. The Contractor shall refer to the Department's "Qualifications and Duties of Concrete Quality Control Personnel" document.

A Level I PCC Technician shall be provided at the jobsite during mixture production and placement, and may supervise concurrent pours on the project. For concurrent pours, a minimum of one Concrete Tester shall be required at each pour location. If the Level I PCC Technician is at one of the pour locations, a Concrete Tester is still required at the same location. Each Concrete Tester shall be able to contact the Level I PCC Technician by cellular phone, two-way radio or other methods approved by the Engineer. A single Level I PCC Technician shall not supervise concurrent pours for multiple contracts.

A Level II PCC Technician shall be provided at the plant, or shall be available, during mixture production and placement. A Level II PCC Technician may supervise a maximum of three plants. Whenever the Level II PCC Technician is not at the plant during mixture production and placement, a Concrete Tester or Level I PCC Technician shall be present at the plant to perform any necessary concrete tests. The Concrete Tester, Level I PCC Technician, or other individual shall also be trained to perform any necessary aggregate moisture tests, if the Level II PCC Technician is not at the plant during mixture production and placement. The Concrete Tester, Level I PCC Technician, plant personnel, and jobsite personnel shall have the ability to contact the Level II PCC Technician by cellular phone, two-way radio, or other methods approved by the Engineer.

For a mixture which is produced and placed with a mobile portland cement concrete plant as defined in Article 1103.04 of the Standard Specifications, a Level II PCC Technician shall be provided. The Level II PCC Technician shall be present at all times during mixture production and placement.

A Concrete Tester, Mixture Aggregate Technician, and Aggregate Technician may provide assistance with sampling and testing. A Gradation Technician may provide assistance with testing. A Concrete Tester shall be supervised by a Level I or Level II PCC Technician. A Gradation Technician shall be supervised by a Level II PCC Technician, Mixture Aggregate Technician, or Aggregate Technician.

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- (b) Required Plant Tests. Sampling and testing shall be performed at the plant, or at a location approved by the Engineer, to control the production of a mixture. The required minimum Contractor plant sampling and testing is indicated in Schedule A.
- (c) Required Field Tests. Sampling and testing shall be performed at the jobsite to control the production of a mixture, and to comply with specifications for placement. For standard curing, after initial curing, and for strength testing; the location shall be approved by the Engineer. The required minimum Contractor jobsite sampling and testing is indicated in Schedule B.

Quality Assurance by Engineer. The Engineer will perform quality assurance tests on independent samples and split samples. An independent sample is a field sample obtained and tested by only one party. A split sample is one of two equal portions of a field sample, where two parties each receive one portion for testing. The Engineer may request the Contractor to obtain a split sample. Aggregate split samples shall be retained until permission is given by the Engineer for disposal. The results of all quality assurance tests by the Engineer will be made available to the Contractor as soon as they are completed. The Engineer's quality assurance independent sample and split sample testing is indicated in Schedule C.

- (a) Strength Testing. For strength testing, Article 1020.09 of the Standard Specifications shall apply, except the Department may provide its own curing facilities for curing cylinder strength specimens. For beam strength specimens cured in a water storage tank at the jobsite, the Contractor and Engineer strength specimens may be cured in the same tank.
- (b) Comparing Test Results. Differences between the Engineer's and the Contractor's split sample test results will not be considered extreme if within the following limits:

Test Parameter	Acceptable Limits of Precision
Slump	20 mm (0.75 in.)
Air Content	0.9%
Compressive Strength	6200 kPa (900 psi)
Flexural Strength	620 kPa (90 psi)
Aggregate Gradation	See "Guideline for Sample Comparison" in Appendix "A" of the Manual of Test Procedures for Materials.

- (c) Test Results. If either the Engineer's or the Contractor's split sample test result is not within specification limits, and the other party is within specification limits; immediate retests on a split sample shall be performed for slump, air content, or aggregate gradation. A passing retest result by each party will require no further action. If either the Engineer's or Contractor's slump, air content, or aggregate gradation split sample retest result is a failure; or if either the Engineer's or Contractor's strength test

result is a failure, and the other party is within specification limits; the following actions shall be initiated:

- (1) The Engineer and the Contractor shall investigate the sampling method, test procedure, equipment condition, equipment calibration, and other factors.
- (2) The Engineer or the Contractor shall replace test equipment, as determined by the Engineer.
- (3) The Engineer and the Contractor shall perform additional testing on split samples, as determined by the Engineer.
- (4) For aggregate gradation, jobsite slump, and jobsite air content; if the failing test result is not resolved according to (1), (2), or (3), and the mixture has not been placed, the Contractor shall reject the material; unless the Engineer accepts the material for incorporation in the work according to Article 105.03 of the Standard Specifications.

For aggregate gradation, jobsite slump, and jobsite air content; if the result of a quality assurance test on a sample independently obtained by the Engineer is not within specification limits, and the mixture has not been placed, the Contractor shall reject the material, unless the Engineer accepts the material for incorporation in the work according to Article 105.03 of the Standard Specifications.

If a continued trend of difference exists between the Engineer's and the Contractor's split sample test results, or if split sample test results exceed the acceptable limits of precision, the Engineer and the Contractor shall investigate. The investigation shall be according to (1), (2) and (3).

Acceptance by the Engineer. Final acceptance will be based on the Standard Specifications and the following:

- (a) The Contractor's compliance with all contract documents for quality control.
- (b) Validation of Contractor quality control test results by comparison with the Engineer's quality assurance test results using split samples.
- (c) Comparison of the Engineer's quality assurance test results with specification limits using samples independently obtained by the Engineer.

The Engineer may suspend mixture production, reject materials, or take other appropriate action if the Contractor does not control the quality of concrete, cement aggregate mixture II, or controlled low-strength material for acceptance. The decision will be determined according to (a), (b) and (c).

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Documentation.

- (a) Records. The Contractor shall be responsible for documenting all observations, inspections, adjustments to the mix design, test results, retest results, and corrective actions in a bound hardback field book, bound hardback diary, or appropriate Department form, which shall become the property of the Department. The documentation shall include a method to compare the Engineer's test results with the Contractor's results. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the consultants, the subcontractors, or the producer of the mixture. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

The Department's form MI 504 M, form MI 654, and form MI 655 shall be completed by the Contractor, and shall be submitted to the Engineer weekly or as required by the Engineer. A correctly completed form MI 504 M, form MI 654, and form MI 655 are required to authorize payment by the Engineer, for applicable pay items.

- (b) Delivery Truck Ticket. For a mixture which is not mixed on the jobsite, a delivery ticket shall be required for each load.

The following information shall be recorded on each delivery ticket: ticket number, name of producer, contract number, name of Contractor, date, time batched, truck number, quantity batched, and Department mix design number.

The following information shall be recorded on each delivery ticket or in a bound hardback field book: initial/final revolution counter reading, at the jobsite, if the mixture is truck-mixed; time discharged at the jobsite; total amount of each admixture in batch; total amount of water added at the jobsite; and total amount of water in batch.

Basis of Payment. Quality Control/Quality Assurance of portland cement concrete mixtures will not be paid for separately, but shall be considered as included in the cost of the various concrete contract items.

SCHEDULE A

CONTRACTOR PLANT SAMPLING AND TESTING			
Item	Test	Frequency	IL Modified AASHTO, IL Modified ASTM, or Department Test Method ^{1/}
Aggregates (Arriving at Plant)	Gradation ^{2/}	As needed to check source for each gradation number	T 2, T 11, T 27 and T 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Gradation ^{2/}	1,900 cu m (2,500 cu yd) for each gradation number ^{3/}	T 2, T 11, T 27 and T 248
Aggregates (Stored at Plant in Stockpiles or Bins)	Moisture ^{4/} : Fine Aggregate	Once per week for moisture sensor, otherwise daily for each gradation number	Flask, Dunagan, Pycnometer Jar or T 255
	Moisture ^{4/} : Coarse Aggregate	As needed to control production for each gradation number	Dunagan, Pycnometer Jar or T 255
Mixture ^{5/}	Slump, Air Content, Unit Weight / Yield, And Temperature	As needed to control production	T 141 and T 119 T 141 and T 152 or T 196 T 141 and T 121 T 141 and ASTM C 1064

- 1/ Refer to the Department's "Manual of Test Procedures for Materials".
- 2/ The first test and every third test thereafter shall be washed. Testing shall be completed no later than 24 hours after the aggregate has been sampled.
- 3/ One per week (Sunday through Saturday) minimum. One per day minimum if pouring bridge deck.
- 4/ If the moisture test and moisture sensor disagree by more than 0.5 percent, retest. If the difference remains, adjust the moisture sensor to an average of two or more moisture tests, using the Dunagan or Illinois Modified AASHTO T 255 test method. The Department's "Water/Cement Ratio Worksheet" form shall be completed when applicable.
- 5/ The Contractor may also perform strength testing according to Illinois Modified AASHTO T 141, T 23, and T 22 or T 177; or water content testing according to Illinois Modified AASHTO T 318; or other tests at the plant to control mixture production.

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SCHEDULE B

CONTRACTOR JOBSITE SAMPLING & TESTING ^{1/}			
Item	Measured Property	Random Sample Testing Frequency per Mix Design and per Plant ^{2/}	IL Modified AASHTO Test Method
Pavement, Shoulder, Base Course, Base Course Widening, Bridge Approach Pavement, Driveway Pavement, Railroad Crossing, Cement Aggregate Mixture II	Slump ^{3/ 4/}	1 per 400 cu m (500 cu yd) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 80 cu m (100 cu yd) or minimum 1/day	T 141 And T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 1000 cu m (1250 cu yd) or minimum 1/day	T 141, T 22 and T 23 Or T 141, T 177 and T 23
Bridge Deck ^{9/} , Bridge Deck Overlay ^{9/} , Superstructure ^{9/} , Substructure, Culvert, Miscellaneous. Drainage Structures, Retaining Wall, Building Wall, Footing, Light Foundation, Traffic Foundation, Pavement Patching, Structural Repairs	Slump ^{3/ 4/}	1 per 40 cu m (50 cu yd) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 40 cu m (50 cu yd) or minimum 1/day	T 141 And T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 200 cu m (250 cu yd) or minimum 1/day	T 141, T 22 and T 23 Or T 141, T 177 and T 23
Caisson, Cast-in-Place Pile, Seal Coat ^{10/}	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 200 cu m (250 cu yd) or minimum 1/day	T 141, T 22 and T 23 Or T 141, T 177 and T 23
Curb, Gutter, Median, Barrier, Sidewalk, Slope Wall, Paved Ditch, Fabric Formed Concrete Revetment Mat ^{11/} , Miscellaneous Items, Incidental Items	Slump ^{3/ 4/}	1 per 80 cu m (100 cu yd) or minimum 1/day	T 141 and T 119
	Air Content ^{3/ 5/ 6/}	1 per 40 cu m (50 cu yd) or minimum 1/day	T 141 And T 152 or T 196
	Compressive Strength ^{7/ 8/} or Flexural Strength ^{7/ 8/}	1 per 300 cu m (400 cu yd) or minimum 1/day	T 141, T 22 and T 23 Or T 141, T 177 and T 23
All	Temperature ^{3/}	As needed to control production	T 141 and ASTM C 1064
Controlled Low-Strength Material (CLSM)	Air Content, Flow and Compressive Strength	As needed to control production	Test according to CLSM specification

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- 1/ Sampling and testing of small quantities of curb, gutter, median, barrier, sidewalk, slope wall, paved ditch, miscellaneous items, and incidental items may be waived by the Engineer if requested by the Contractor. However, quality control personnel are still required according to "Quality Control by Contractor, (a) Personnel Requirements." The Contractor shall also provide recent evidence that similar material has been found to be satisfactory under normal sampling and testing procedures. The total quantity that may be waived for testing shall not exceed 76 cu m (100 cu yd) per contract.
- 2/ If one mix design is being used for several construction items during a day's production, one testing frequency may be selected to include all items. The construction items shall have the same slump, air content, and water/cement ratio specifications. The frequency selected shall equal or exceed the testing required for the construction item.

One sufficiently sized sample shall be taken to perform the required test(s). Random numbers shall be determined according to the Department's "Method for Obtaining Random Samples for Concrete". The Engineer may observe the selection of a random number.

- 3/ The temperature, slump, and air content tests shall be performed on the first truck load delivered, for each pour. Unless a random sample is required for the first truck load, testing the first truck load does not satisfy random sampling requirements.
- 4/ The slump random sample testing frequency shall be a minimum 1/day for a construction item which is slipformed.
- 5/ If a pump or conveyor is used for placement, a correction factor shall be established to allow for a loss of air content during transport. The first three truck loads delivered shall be tested, before and after transport by the pump or conveyor, to establish the correction factor. Once the correction is determined, it shall be re-checked after an additional 40 cu m (50 cu yd) is pumped, or an additional 80 cu m (100 cu yd) is conveyed. This shall continue throughout the pour. If the re-check indicates the correction factor has changed, a minimum of two truck loads is required to re-establish the correction factor. The correction factor shall also be re-established when significant changes in temperature, distance, pump or conveyor arrangement, and other factors have occurred. If the correction factor is 3.0 percent or more, the Contractor shall take corrective action to reduce the loss of air content during transport by the pump or conveyor. The Contractor shall record all air content test results, correction factors and corrected air contents. The corrected air content shall be reported on Form MI 654.
- 6/ If the Contractor's or Engineer's air content test result is within the specification limits, and 0.2 percent or closer to either limit, the next truck load delivered shall be tested by the Contractor. For example, if the specified air content range is 5.0 to 8.0 percent and the test result is 5.0, 5.1,

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5.2, 7.8, 7.9 or 8.0 percent, the next truck shall be tested by the Contractor.

If the Contractor's or Engineer's air content or slump test result is not within the specification limits, all subsequent truck loads delivered shall be tested by the Contractor until the problem is corrected.

- 7/ The test of record for strength shall be the day indicated in the Standard Specifications. For cement aggregate mixture II, a strength requirement is not specified and testing is not required. Additional strength testing to determine early falsework and form removal, early pavement or bridge opening to traffic, or to monitor strengths is at the discretion of the Contractor. For pavement, the first and second sentences of the second paragraph of Article 701.05(c)(6) of the Standard Specifications shall not apply. Strength specimens for early falsework and form removal, and early pavement or bridge deck opening to traffic shall be cured with the pavement or structure. Strength shall be defined as the average of at least two cylinder or two beam breaks for field tests.

In some instances, such as Articles 503.05 and 503.06 of the Standard Specifications, only a flexural strength is specified. An equivalent compressive strength may be used if approved by the Engineer.

- 8/ In addition to the strength test, an air test, slump test, and temperature test shall be performed on the same sample. For mixtures pumped or conveyed, the Contractor has the option to sample at the discharge end.
- 9/ The air content test will be required for each delivered truck load.
- 10/ For seal coat, the slump test shall be performed as needed to control production.
- 11/ For fabric formed concrete revetment mat, the slump test is not required and the flexural strength test is not applicable.

SCHEDULE C

ENGINEER QUALITY ASSURANCE INDEPENDENT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins, Slump and Air Content	As determined by the Engineer.
Jobsite	Slump, Air Content and Strength	As determined by the Engineer.

ENGINEER QUALITY ASSURANCE SPLIT SAMPLE TESTING		
Location	Measured Property	Testing Frequency ^{1/}
Plant	Gradation of aggregates stored in stockpiles or bins ^{2/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per aggregate gradation number and per plant.
	Slump and Air Content	As determined by the Engineer.
Jobsite	Slump ^{3/} and Air Content ^{3/ 4/}	At the beginning of the project, the first three tests performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.
	Strength ^{3/}	At the beginning of the project, the first test performed by the Contractor. Thereafter, a minimum of 10% of total tests required of the Contractor will be performed per plant, which will include a minimum of one test per mix design.

- 1/ The Engineer will perform the testing throughout the period of quality control testing by the Contractor.
- 2/ The Engineer will witness, a minimum of one a month, the split sample obtained by the Contractor.
- 3/ The Engineer will witness the split sample obtained by the Contractor.
- 4/ Before transport by pump or conveyor, a minimum of ten percent of total tests required of the Contractor will be performed per mix design and per plant. After transport by pump or conveyor, a minimum of ten percent of total tests required of the Contractor will be performed per mix design and per plant.

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SCHEDULE D

IDOT CONCRETE QC/QA DOCUMENTS

- (a) Model Quality Control Plan for Concrete Production (*)
- (b) Qualifications and Duties of Concrete Quality Control Personnel (*)
- (c) Development of Gradation Bands on Incoming Aggregate at Mix Plants (*)
- (d) Required Sampling and Testing Equipment for Concrete (*)
- (e) Calibration of Concrete Testing Equipment (*)
- (f) Method for Obtaining Random Samples for Concrete (*)
- (g) Water/Cement Ratio Worksheet (*)
- (h) Field/Lab Gradations (Form MI 504M)
- (i) Concrete Air, Slump and Quantity (Form MI 654)
- (j) P.C. Concrete Strengths (Form MI 655)
- (k) Manual of Instructions for Design of Concrete Mixtures
- (l) Aggregate Technician Course Workbook
- (m) Portland Cement Concrete Tester Course Manual
- (n) Portland Cement Concrete Level I Technician Course Manual
- (o) Portland Cement Concrete Level II Technician Course Manual
- (p) Manual of Test Procedures for Materials

* Refer to the Manual of Test Procedures for Materials

State of Illinois
Department of Transportation

SPECIAL PROVISION
FOR
TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL

Effective: August 1, 1994
Revised: January 1, 2003

Description. This work shall consist of furnishing and installing a traffic barrier terminal Type 1, special according to Section 631 of the Standard Specifications and the following:

CONSTRUCTION REQUIREMENTS

General. All terminals shall meet the testing criteria contained in the National Cooperative Highway Research Program (NCHRP) Report 350 and be approved by the Department.

The terminal shall be installed according to the manufacturer's specifications and shall include all necessary transitions between the terminal and the item to which it is attached.

The terminals at a single location within a project shall be of the same manufacture and configuration and shall be identical in design and appearance.

The terminal section shall provide a minimum length of need of 11.4 m (37.5 ft).

The terminal shall be delineated with a terminal marker direct applied. No other guardrail delineation shall be attached to the terminal section.

Basis of Payment. This work will be paid for at the contract unit price per each for TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT) and for TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED).

The terminal marker direct applied will be paid for separately.

Widening of existing shoulders for the installation of the terminal shall be as shown on the plans and will be paid for according to Section 202 and/or Section 204 of the Standard Specifications.

CHECK SHEET #41

Reserved

State of Illinois
Department of Transportation

**SPECIAL PROVISION
FOR
SEGREGATION CONTROL OF BITUMINOUS CONCRETE**

Effective: July 15, 1997

Description. This work shall consist of the visual identification and corrective action of segregated bituminous concrete in conjunction with QC/QA of Bituminous Concrete Mixtures.

Definitions.

- (a) Segregation. Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement.
- (b) End-of-Load Segregation. A systematic form of segregation typically identified by chevron-shaped segregated areas at either side of a lane corresponding with the beginning and end of truck loads.
- (c) Longitudinal Segregation. A linear pattern of segregation that usually corresponds to a specific area of the paver.
- (d) Severity of Segregation.
 - (1) Low. A pattern of segregation where the mastic is in place between the aggregate particles; however, there is slightly more coarse aggregate in comparison with the surrounding acceptable mat.
 - (2) Medium. A pattern of segregation that has significantly more coarse aggregate in comparison with the surrounding acceptable mat and which exhibits some lack of mastic.
 - (3) High. A pattern of segregation that has significantly more coarse aggregate in comparison with the surrounding acceptable mat and which contains little mastic.

Quality Control by the Contractor. The Contractor and the Engineer will evaluate the in place mat daily for segregation. In the Annual Quality Control Plan or Addendum, the Contractor shall identify the individual(s) responsible for implementing this special provision and documenting the daily evaluations and conclusions.

The Contractor shall conduct the paving operation in a manner to prevent medium or high segregation.

The Contractor shall continually monitor the plant operations, hauling of the mix, paver operations and the compacted mat for segregation.

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If medium or high segregation has been previously identified on projects with similar paving operations and mix designs, the Contractor shall include the corrective actions specified below in the Quality Control Plans or the Quality Control Addendum.

Corrective Action by the Contractor. When medium or high segregation of the mixture is identified by the Contractor, the Engineer or the daily evaluation, the following specific actions shall be taken:

- (a) End of Load Segregation. If medium or high end of load segregation is identified, the following actions as a minimum shall be taken:
 - (1) Trucks transporting the mixture shall be loaded in multiple dumps: The first against the front wall of the truck bed and then one against the tailgate in a manner which prevents the coarse aggregate from migrating to those locations.
 - (2) The paver shall be operated so the hopper is never below 30 percent capacity between truck exchanges.
 - (3) The "Head of Material" in the auger area shall be controlled to keep a constant level, ± 25 mm (1 in.) tolerance.
- (b) Longitudinal Segregation. If medium or high longitudinal segregation is identified, the Contractor shall make the necessary adjustment to the slats, augers or screeds to eliminate the segregation.

The Contractor shall implement the corrective actions as soon as possible and report them to the Engineer before the next day's paving proceeds.

Quality Control Plans and Addendums for subsequent projects shall reflect the corrective actions taken under the contract, whether the corrective action was initiated by the Contractor or the Engineer.

Investigations. If the corrective actions initiated by the Contractor are insufficient in controlling medium or high segregation, the Contractor and Engineer will investigate to determine the cause of segregation.

When an investigation indicates additional corrective action is warranted, the Contractor shall implement operational changes necessary to correct the segregation problems.

Any verification testing necessary for the investigation will be performed by the Department according to the applicable project test procedures and specification limits.

Dispute Resolution. The Engineer will represent the Department in the administration of this special provision.

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In cases of disputes, the District Construction Engineer will represent the Department in any disagreement regarding the application of this special provision on any contract.

Basis of Payment. This work will not be paid for separately but will be considered as included in the cost of the various items of bituminous concrete and no additional compensation will be allowed.

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Reserved

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

**The following special provisions should only be used
when the local agency is the lead on a project.**

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State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR COOPERATION WITH UTILITIES

Effective: January 1, 1999

Revised: January 1, 2002

When the plans or special provisions include information pertaining to the location of underground utility facilities, such information represents only the opinion of the Department as to the location of such utilities and is only included for the convenience of the bidder. The Department assumes no responsibility in respect to the sufficiency or the accuracy of the information shown on the plans relative to the location of the underground utility facilities. It shall be the Contractor's responsibility to determine the actual location of all such facilities. He shall also obtain from the respective utility companies detailed information relative to the location of their facilities and the working schedules of the utility companies for removing or adjusting them.

Revise Article 105.07 of the Standard Specifications to read:

"105.07 Utility Facilities. Utilities which are within the limits of the proposed construction are to be moved or removed at no cost to the Contractor except as otherwise provided for in the special provisions or as noted in the plans.

(a) For the purpose of this Article, limits of proposed construction for utilities extending in the same longitudinal direction as the roadway, shall be defined as follows:

- (1) The horizontal limits shall be a plane, outside of, parallel to, and 600 mm (2 ft) distant at right angles from the plan or revised slope limits and the slope limits extended vertically above the point of intersection of the slope limits and the original cross-section surface.

In cases where the limits of excavation for structures are not shown on the plans, the horizontal limits shall be a vertical plane 1.2 m (4 ft) outside the edges of structure footings or the structure where no footings are required.

- (2) The upper vertical limits shall be the regulations governing the roadbed clearance for the specific utility involved.

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- (3) The lower vertical limits shall be the limits of excavation.
- (b) For the purpose of this Article, limits of proposed construction for utilities crossing the roadway in a generally transverse direction shall be defined as follows:
 - (1) Utilities crossing excavations for structures that are normally made by trenching such as sewers, underdrains, etc., and all minor structures such as manholes, inlets, foundations for signs, foundations for traffic signals, etc., the limits shall be the space to be occupied by the proposed permanent construction unless otherwise required by the regulations governing the specific utility involved.
 - (2) For utilities crossing the proposed site of major structures such as bridges, sign trusses, etc., the limits shall be as defined above for utilities extending in the same general longitudinal direction as the roadway.

All reasonable adjustments, as determined by the Engineer, of utilities not shown on the plans, or visible or not identified by markers will be made at no cost to the Contractor except that traffic structures, light poles, etc., that are normally located within the construction limits will not be adjusted unless required by the proposed improvement.

The Contractor may make arrangements for adjustment of utilities outside the limits of proposed construction as defined above provided the Contractor furnishes the Department with a signed agreement with the utility owner covering the adjustments to be made. The cost of any adjustments made outside the limits of proposed construction as defined above shall be the responsibility of the Contractor unless otherwise provided for.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances in their present or relocated positions and that no additional compensation will be allowed for any delays, inconvenience, or damage sustained by him due to any interference from the said utility appurtenances or the operation of moving them either by the utility company or by him; or on account of any special construction methods required in prosecuting his work due to the existence of said appurtenances either in their present or relocated positions."

CHECK SHEET LRS2

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

**SPECIAL PROVISION
FOR
FURNISHED EXCAVATION**

Effective: January 1, 1999
Revised: January 1, 2002

Add the following to Article 204.07 of the Standard Specifications:

Method of Measurement.

“(c) Truck Loads. When contract quantities do not exceed 2,000 cu m (cu yd), furnished excavation may be measured by truck loads. Prior to the start of work the Contractor and the Engineer shall agree to a standard volume for the trucks utilized by the Contractor. A shrinkage factor of 25 percent shall be used in the computations.”

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
CONSTRUCTION ZONE TRAFFIC CONTROL

Effective: January 1, 1999

Revise Article 701.04(b)(2) of the Standard Specifications to read:

“The Contractor shall conduct inspections of the worksite at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn or damaged. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.”

Delete Articles 701.07 (d) and Article 701.08 (e) of the Standard Specifications.

CHECK SHEET LRS4

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR FLAGGERS IN WORK ZONES

Effective: January 1, 1999

Revise the last sentence of Article 701.04(c)(1) of the Standard Specifications to read:

“Flaggers are required only when workers are present.”

Reserved

CHECK SHEET LRS6

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR BIDDING REQUIREMENTS AND CONDITIONS FOR CONTRACT PROPOSALS

Effective: January 1, 2002

Prequalification of Bidders. County or Municipality. When prequalification is required and the Awarding Authority for contract construction work is the County Board of a County, the Council, the City Council, or the President and Board of Trustees of a city, village, or town, each prospective bidder, in evidence of competence, shall furnish the Awarding Authority as a prerequisite to the release of proposal forms by the Awarding Authority, a certified or photostatic copy of a "Certificate of Eligibility" issued by the Department of Transportation, according to the Department's "Prequalification Manual".

The two low bidders must file, within 24 hours after the letting, a sworn affidavit in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work, using the blank form made available for this affidavit. One copy shall be filed with the Awarding Authority and two copies with IDOT's District office.

Issuance of Proposal Forms. The Awarding Authority reserves the right to refuse to issue a proposal form for bidding purposes for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant, and other equipment, as revealed by the financial statement and experience questionnaires required in the prequalification procedures.
- (b) Uncompleted work which, in the judgement of the Awarding Authority, might hinder or prevent the prompt completion of additional work awarded.
- (c) False information provided on a bidder's "Affidavit of Availability".
- (d) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of proposal forms.
- (e) Failure to comply with any prequalification regulations of the Department.
- (f) Default under previous contracts.
- (g) Unsatisfactory performance record as shown by past work for the Awarding Authority, judged from the standpoint of workmanship and progress.

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- (h) When the Contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or requires approval of, the Department.
- (i) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposal work.
- (j) When any agent, servant, or employee of the perspective bidder has participated in the preparation of plans or specifications for the proposed work.

Interpretation of Quantities in the Bid Schedule. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased, or omitted as hereinafter provided.

Examination of Plans, Specifications, Special Provisions, and Site of Work. The bidder shall, before submitting a bid, carefully examine the provisions of the contract. The bidder shall inspect in detail the site of the proposed work, investigate and become familiar with all the local conditions affecting the contract and fully acquaint themselves with the detailed requirements of construction. Submission of a bid shall be a conclusive assurance and warranty the bidder has made these examinations and the bidder understands all requirements for the performance of the work. If his/her bid is accepted, the bidder shall be responsible for all errors in the proposal resulting from his/her failure or neglect to comply with these instructions. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses, or change in anticipated profits resulting from such failure or neglect of the bidder to make these examinations.

The bidder shall take no advantage of any error or omission in the proposal and advertised contract. Any prospective bidder who desires an explanation or interpretation of the plans, specification, or any of the contract documents, shall request such in writing from the Awarding Authority, in sufficient time to allow a written reply by the Awarding Authority that can reach all prospective bidders before the submission of their bids. Any reply given a prospective bidder concerning any of the contract documents, plans, and specifications will be furnished to all prospective bidders in the form determined by the Awarding Authority including, but not limited to, an addendum, if the information is deemed by the Awarding Authority to be necessary in submitting bids or if the Awarding Authority concludes the information would aid competition. Oral explanations, interpretations, or instructions given before the submission of bids unless at a prebid conference will not be binding on the Awarding Authority.

Preparation of the Proposal. Bidders shall submit their proposals on the form furnished by the Awarding Authority. The proposal shall be executed properly, and bids shall be made for all items indicated in the proposal form, except when alternate

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bids are asked, a bid on more than one alternate for each item is not required, unless otherwise provided. The bidder shall indicate in figures, a unit price for each of the separate items called for in the proposal form; the bidder shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the proposal form shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written in ink.

If the proposal is made by an individual, that individual's name and business address shall be shown. If made by a firm or partnership, the name and business address of each member of the firm or partnership shall be shown. If made by a corporation, the proposal shall show the names, titles, and business addresses of the president, corporate secretary and treasurer. The proposal shall be signed by president or someone with authority to execute contracts and attested by the corporate secretary or someone with authority to execute or attest to the execution of contracts.

When prequalification is required, the proposal form shall be submitted by an authorized bidder in the same name and style as shown on the "Contractor's Statement of Experience and Financial Condition" used for prequalification.

Rejection of Proposals. The Awarding Authority reserves the right to reject any proposal for any of the conditions in "Issuance of Proposal Forms" or for any of the following reasons:

- (a) More than one proposal for the same work from an individual, firm, partnership, or corporation under the same name or different names.
- (b) Evidence of collusion among bidders.
- (c) Unbalanced proposals in which the bid prices for some items are, in the judgement of the Awarding Authority, out of proportion to the bid prices for other items.
- (d) If the proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items or lump sum pay items.
- (e) If the proposal form is other than that furnished by the Awarding Authority; or if the form is altered or any part thereof is detached.
- (f) If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.
- (g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- (h) If the proposal is not accompanied by the proper proposal guaranty.

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- (i) If the proposal is prepared with other than ink or typewriter, or otherwise fails to meet the requirements of the above "Preparation of Proposal" section.

Proposal Guaranty. Each proposal shall be accompanied by a bid bond on the Department form contained in the proposal, executed by a corporate surety company satisfactory to the Awarding Authority, by a bank cashier's check or a properly certified check for not less than five percent of the amount bid, or for the amount specified in the following schedule:

Amount Bid		Proposal Guaranty
Up to	\$5,000	\$150
\$5,000	\$10,000	\$300
\$10,000	\$50,000	\$1,000
\$50,000	\$100,000	\$3,000
\$100,000	\$150,000	\$5,000
\$150,000	\$250,000	\$7,500
\$250,000	\$500,000	\$12,500
\$500,000	\$1,000,000	\$25,000
\$1,000,000	\$1,500,000	\$50,000
\$1,500,000	\$2,000,000	\$75,000
\$2,000,000	\$3,000,000	\$100,000
\$3,000,000	\$5,000,000	\$150,000
\$5,000,000	\$7,500,000	\$250,000
\$7,500,000	\$10,000,000	\$400,000
\$10,000,000	\$15,000,000	\$500,000
\$15,000,000	\$20,000,000	\$600,000
\$20,000,000	\$25,000,000	\$700,000
\$25,000,000	\$30,000,000	\$800,000
\$30,000,000	\$35,000,000	\$900,000
Over	\$35,000,000	\$1,000,000

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must equal to the sum of the proposal guaranties which would be required for each individual proposal.

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the County Treasurer, when a County is the Awarding Authority; or the City, Village, or Town Treasurer, when a city, village, or town is the Awarding Authority.

The proposal guaranty checks of all except the two lowest responsible will be returned promptly after the proposals have been checked, tabulated, and the relation of the proposals established. Proposal guaranty checks of the two lowest bidders will be returned as soon as the contract and contract bond of the successful bidder have been properly executed and approved. Bid bonds will not be returned.

After a period of three working days has elapsed after the date of opening proposals, the Awarding Authority may permit the two lowest bidders to substitute for

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the bank cashier's checks or certified checks submitted with their proposals as proposal guaranties, bid bonds on the Department forms executed by corporate surety companies satisfactory to the Awarding Authority.

Delivery of Proposals. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Authority and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.

Withdrawal of Proposals. Permission will be given a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

Public Opening of Proposals. Proposals will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

Consideration of Proposals. After the proposals are opened and read, they will be compared on the basis of the summation of the products of the quantities shown in the bid schedule by the unit bid prices. In awarding contracts, the Awarding Authority will, in addition to considering the amounts stated in the proposals, take into consideration the responsibility of the various bidders as determined from a study of the data required under "Prequalification of Bidders", and from other investigations which it may elect to make.

The right is reserved to reject any or all proposals, to waive technicalities, or to advertise for new proposals, if in the judgement of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

Award of Contract. The award of contract will be made within 45 calendar days after the opening of proposals to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by letter of intent that his/her bid has been accepted, and subject to the following conditions, the bidder will be the Contractor.

An approved contract executed by the Awarding Authority is required before the Awarding Authority is bound. An award may be cancelled any time by the Awarding Authority prior to execution in order to protect the public interest and integrity of the bidding process or for any other reason if, in the judgement of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

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If a contract is not awarded within 45 days after the opening of proposals, bidders may file a written request with the Awarding Authority for the withdrawal of their bid, and the Awarding Authority will permit such withdrawal.

Requirement of Contract Bond. The Contractor shall furnish the Awarding Authority a performance and payment bond with good and sufficient sureties in the full amount of the contract as the penal sum. The surety shall be acceptable to the Awarding Authority, shall waive notice of any changes and extensions of time, and shall submit its bond on the form furnished by the Awarding Authority.

Execution of Contract. The contract shall be executed by the successful bidder and returned, together with the Contract Bond, within 15 days after the contract has been mailed to the bidder.

If the bidder to whom the award is made is a corporation organized under the laws of a State other than Illinois, the bidder shall furnish the Awarding Authority a copy of the corporation's Certificate of Authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish such evidence of a Certificate of Authority within the time required will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the Awarding Authority, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.

Failure to Execute Contract. If the contract is not executed by the Awarding Authority within 15 days following receipt from the bidder of the properly executed contracts and bonds, the bidder shall have the right to withdraw his/her bid without penalty.

Failure of the successful bidder to execute the contract and file acceptable bonds within 15 days after the contract has been mailed to the bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Awarding Authority, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be readvertised and constructed under contract, or otherwise, as the Awarding Authority may decide.

CHECK SHEET LRS 7

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION FOR BIDDING REQUIREMENTS AND CONDITIONS FOR MATERIAL PROPOSALS

Effective: January 1, 2002

Revised: January 1, 2003

Prequalification of Bidders. County or Municipality. When prequalification is required and the awarding authority for contract construction work is the County Board of a County, the Council, the City Council, or the President and Board of Trustees of a city, village, or town, each prospective bidder, in evidence of competence, shall furnish the awarding authority as a prerequisite to the release of proposal forms by the awarding authority, a certified or photostatic copy of a "Certificate of Eligibility" issued by the Department of Transportation, in accordance with the Department's "Prequalification Manual".

The two low bidders must file, within 24 hours after the letting, a sworn affidavit in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work, using the blank form made available for this affidavit. One copy shall be filed with the awarding authority and two copies with the District office.

Issuance of Proposal Forms. The Awarding Authority reserves the right to refuse to issue a proposal form for bidding purposes for any of the following reasons:

- (a) Lack of competency and adequate machinery, plant, and other equipment, as revealed by the financial statement and experience questionnaires required in prequalification procedures.
- (b) Uncompleted work which, in the judgement of the Awarding Authority, might hinder or prevent the prompt completion of additional work awarded.
- (c) False information provided on a bidder's "Affidavit of Availability".
- (d) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of proposal forms.
- (e) Failure to comply with any prequalification regulations of the Department.
- (f) Default under previous contracts.
- (g) Unsatisfactory performance record as shown by past work for the Awarding Authority, judged from the standpoint of workmanship and progress.

- (h) When the Contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or requires approval of, the Department.
- (i) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposal work.
- (j) When any agent, servant, or employee of the perspective bidder has participated in the preparation of plans or specifications for the proposed work.

Interpretation of Quantities in the Bid Schedule. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.

Examination of Material Proposal, Specifications, Special Provisions, and Site of Work. The bidder shall, before submitting a bid, carefully examine the provisions of the proposal. The bidder shall inspect in detail the site of the proposed work, investigate and become familiar with all the local conditions affecting the work and fully acquaint themselves with the detailed requirements of the work. Submission of a bid shall be a conclusive assurance and warranty the bidder has made these examinations and the bidder understands all requirements for the performance of the work. If his/her bid is accepted, the bidder will be responsible for all errors in the proposal resulting from his/her failure or neglect to comply with these instructions. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses, or change in anticipated profits resulting from such failure or neglect of the bidder to make these examinations.

The bidder shall take no advantage of any error or omission in the proposal. Any prospective bidder who desires an explanation or interpretation of the specification, or any of the documents, shall request such in writing from the Awarding Authority, in sufficient time to allow a written reply by the Awarding Authority that can reach all prospective bidders before the submission of their bids. Any reply given a prospective bidder concerning any of the documents and specifications will be furnished to all prospective bidders in the form determined by the Awarding Authority including, but not limited to, an addendum, if the information is deemed by the Awarding Authority to be necessary in submitting bids or if the Awarding Authority concludes the information would aid competition. Oral explanations, interpretations or instructions given before the submission of bids unless at a prebid conference will not be binding on the Awarding Authority.

Preparation of the Proposal. Bidders shall submit their proposals on the form furnished by the Awarding Authority. The proposal shall be executed properly, and bids shall be made for all items indicated in the proposal form, except when alternate bids are asked, a bid on more than one alternate for each item is not required, unless

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otherwise provided. The bidder shall indicate in figures, a unit price for each of the separate items called for in the proposal form; the bidder shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the proposal form shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written in ink.

When prequalification is required, the proposal form shall be submitted by an authorized bidder in the same name and style as shown on the "Contractor's Statement of Experience and Financial Condition" used for prequalification and shall be submitted in like manner.

Rejection of Proposals. The Awarding Authority reserves the right to reject any proposal for any of the conditions in "Issuance of Proposal Forms" or for any of the following reasons:

- (a) More than one proposal for the same work from an individual, firm, partnership, or corporation under the same name or different names.
- (b) Evidence of collusion among bidders.
- (c) Unbalanced proposals in which the bid prices for some items are, in the judgement of the Awarding Authority, out of proportion to the bid prices for other items.
- (d) If the proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items or lump sum pay items.
- (e) If the proposal form is other than that furnished by the Awarding Authority; or if the form is altered or any part thereof is detached.
- (f) If there are omissions, erasures, alterations, unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.
- (g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- (i) If the proposal is not accompanied by the proper proposal guaranty.
- (i) If the proposal is prepared with other than ink or typewriter, or otherwise fails to meet the requirements of the above "Preparation of Proposal" section.

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Proposal Guaranty. Each proposal shall be accompanied by a bid bond on the Department form contained in the proposal, executed by a corporate surety company satisfactory to the Awarding Authority, by a bank cashier's check or a properly certified check for not less than five percent of the amount bid, or for the amount specified in the following schedule:

Amount Bid		Proposal Guaranty
Up to	\$5,000	\$150
\$5,000	\$10,000	\$300
\$10,000	\$50,000	\$1,000
\$50,000	\$100,000	\$3,000
\$100,000	\$150,000	\$5,000
\$150,000	\$250,000	\$7,500
\$250,000	\$500,000	\$12,500
\$500,000	\$1,000,000	\$25,000
\$1,000,000	\$1,500,000	\$50,000
\$1,500,000	\$2,000,000	\$75,000
\$2,000,000	\$3,000,000	\$100,000
\$3,000,000	\$5,000,000	\$150,000
\$5,000,000	\$7,500,000	\$250,000
\$7,500,000	\$10,000,000	\$400,000
\$10,000,000	\$15,000,000	\$500,000
\$15,000,000	\$20,000,000	\$600,000
\$20,000,000	\$25,000,000	\$700,000
\$25,000,000	\$30,000,000	\$800,000
\$30,000,000	\$35,000,000	\$900,000
Over	\$35,000,000	\$1,000,000

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must equal to the sum of the proposal guaranties which would be required for each individual proposal.

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the County Treasurer, when a County is the awarding authority; or the City, Village, or Town Treasurer, when a city, village, or town is the awarding authority.

If this proposal contains various groups and the bidder has the option of bidding on one or several groups, the bidder may provide a separate proposal guaranty for each group or combination of groups in lieu of a single proposal guaranty to cover the amount bid for the entire proposal. Each proposal guaranty shall identify the groups covered by the individual proposal guaranty. The required value of the proposal guaranty shall be based on the sum of the total bids for each group covered by the individual proposal guaranty.

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The proposal guaranty checks of all except the two lowest responsible will be returned promptly after the proposals have been checked, tabulated, and the relation of the proposals established. Proposal guaranty checks of the two lowest bidders will be returned as soon as the contract and contract bond of the successful bidder have been properly executed and approved. If a contract bond is not required, the proposal guaranty check will be held in lieu thereof. Bid bonds will not be returned.

The awarding authority may deny the use of a bid bond as a proposal guaranty but may not further restrict the proposal guaranty. The Notice of Material Letting will state whether a bid bond is allowed.

Delivery of Proposals. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Authority and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.

Withdrawal of Proposals. Permission will be given a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

Public Opening of Proposals. Proposals will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents and other interested parties are invited to be present.

Consideration of Proposals. After the proposals are opened and read, they will be compared on the basis of the summation of the products of the quantities shown in the bid schedule by the unit bid prices. In the event of a discrepancy between unit bid prices and extensions, the unit bid price shall govern. In awarding the supply of materials, the Awarding Authority will, in addition to considering the amounts stated in the proposals, take into consideration the responsibility of the various bidders as determined from a study of the data required under "Prequalification of Bidders", and from other investigations which it may elect to make.

The right is reserved to reject any or all proposals, to waive technicalities or to advertise for new proposals, if in the judgement of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

Acceptance of Proposal to Furnish Material. The award will be made within 45 calendar days after the opening of proposals to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by letter of intent that his/her bid has been accepted, and subject to the following conditions, the bidder will be the Contractor or Supplier.

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An acceptance of proposal to furnish materials executed by the Awarding Authority is required before the Awarding Authority is bound. An award may be cancelled any time by the Awarding Authority prior to execution in order to protect the public interest and integrity of the bidding process or for any other reason if, in the judgement of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

If a material proposal is not awarded within 45 days after the opening of proposals, bidders may file a written request with the Awarding Authority for the withdrawal of their bid, and the Awarding Authority will permit such withdrawal.

Requirement of Contract Bond. If the Awarding Authority requires a Contract Bond, the Contractor or Supplier shall furnish the Awarding Authority a performance and payment bond with good and sufficient sureties in the full amount of the award as the penal sum. The surety shall be acceptable to the Awarding Authority, shall waive notice of any changes and extensions of time, and shall submit its bond on the form furnished by the Awarding Authority.

The contract bond shall be returned within 15 days after the notice of award. Failure of the successful bidder to execute and file acceptable bonds within 15 days after the notice of award has been mailed to the bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Awarding Authority, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be readvertised, or otherwise, as the Awarding Authority may decide.

If the bidder to whom the award is made is a corporation organized under the laws of a State other than Illinois, the bidder shall furnish the Awarding Authority a copy of the corporation's Certificate of Authority to do business in the State of Illinois with the return of the contract bond. Failure to furnish such evidence of a Certificate of Authority within the time required will be considered as just cause for the annulment of the award and the forfeiture of the proposal guaranty to the Awarding Authority, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.

Failure to Execute the Acceptance of Proposal to Furnish Material. If the acceptance of proposal to furnish material is not executed by the Awarding Authority within 15 days following receipt from the bidder of the properly executed bonds, the bidder shall have the right to withdraw his/her bid without penalty.

CHECK SHEET LRS8

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
FAILURE TO COMPLETE THE WORK ON TIME

Effective: January 1, 1999

Revise the table of liquidated damages in Article 108.09 of the Standard Specifications to read:

<u>"Original Contract Amount</u>		<u>Daily Charge</u>	
<u>From More</u> <u>Than</u>	<u>To and</u> <u>Including</u>	<u>Calendar</u> <u>Day</u>	<u>Work</u> <u>Day</u>
\$ 0	\$ 25,000	\$ 50	\$ 60
25,000	50,000	100	125
50,000	100,000	200	250
100,000	500,000	370	515
500,000	1,000,000	575	800
1,000,000	2,000,000	735	1,025
2,000,000	3,000,000	895	1,250
3,000,000	5,000,000	1,055	1,475
5,000,000	7,500,000	1,215	1,700
7,500,000	10,000,000	1,425	2,000
10,000,000	15,000,000	1,925	2,700
15,000,000	20,000,000	2,425	3,400
20,000,000	25,000,000	2,925	4,100
25,000,000	30,000,000	3,425	4,800
30,000,000	35,000,000	3,925	5,500
35,000,000	and over	4,425	6,200"

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISIONS
FOR
BITUMINOUS SURFACE TREATMENTS

Effective: January 1, 1999

Revise the last sentence of Article 403.13 of the Standard Specifications to read:

“Upon completion of the work and after the final set of the asphalt, excesses of loose aggregate shall be removed to the satisfaction of the Engineer.”

CHECK SHEET LRS10

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISION
FOR
REFLECTIVE SHEETING TYPE C

Effective: January 1, 1999
Revised: January 1, 2002

Revise Table 1 of Article 1091.01 of the Standard Specifications as follows:

Add "or Reflective Sheeting Type C" to all sign panels that have a reflectorized sign face.

Revise Table 1 of Article 1092.01 of the Standard Specification as follows:

Add "or Direct Applied Reflective Sheeting Type C" to Type 1 and 2 sign panels with a reflectorized sign legend.

Revise the second paragraph of Article 1092.02(a) of the Standard Specifications to read:

"Direct applied reflective sheeting, Type A, Type B, or Type C, used for legend and border, shall be according to the applicable requirements of Section 1091."

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

**SPECIAL PROVISION
FOR
EMPLOYMENT PRACTICES**

Effective: January 1, 1999

In addition to all other labor requirements set forth in this proposal and in the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation, during the performance of this contract, the Contractor for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

Selection Of Labor. The Contractor shall comply with all Illinois statutes pertaining to the selection of labor.

Equal Employment Opportunity. During the performance of this contract, the Contractor agrees as follows:

- (a) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap or unfavorable discharge from military service, and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
- (b) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (c) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin, ancestry, age, marital status, physical or mental handicap or unfavorable discharge from military service.
- (d) That it will send to each labor organization or representative of workers with which it has or is bound by collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts

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to comply with so such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.

- (e) That it will submit reports as required by the Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (f) That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
- (g) That it will include verbatim or by reference the provisions of this clause in every subcontract so that such provisions will be binding upon every such subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by all its subcontractors; and further it will promptly notify the contracting agency and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

**SPECIAL PROVISION
FOR
WAGES OF EMPLOYEES ON PUBLIC WORKS**

Effective: January 1, 1999

This contract is subject to "An act regulating wages of laborers, mechanics and other workers employed in any public works by the State, County, City or any public body or any political subdivision or by anyone under contract for public works", approved June 26, 1941, as amended, except that where a prevailing wage violates a Federal law, order, or ruling, the rate conforming to the Federal law, order, or ruling shall govern.

If it is determined that the "prevailing rate of wages" will be used for this contract, the following conditions will be required:

Not less than the prevailing rate of wages as found by the (public body) or Department of Labor or determined by a court on review shall be paid to all laborers, workers and mechanics performing work under this contract. These prevailing rates of wages are included in this contract.

The Contractor and each subcontractor shall keep an accurate record showing the names and occupations of all laborers, workers and mechanics employed by them on this contract, and also showing the actual hourly wages paid to each of such persons.

The submission by the Contractor and each subcontractor of payrolls, or copies thereof, is not required. However, the Contractor and each subcontractor shall preserve their weekly payroll records for a period of three years from the date of completion of this contract.

If the Department of Labor revised the prevailing rate of hourly wages to be paid by the public body, the revised rate as provided by the public body shall apply to this contract.

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State of Illinois
Department of Transportation
Bureau of Local Roads and Streets

SPECIAL PROVISIONS FOR SELECTION OF LABOR

Effective: January 1, 1999

The Contractor shall comply with all Illinois statutes pertaining to the selection of labor.

Employment of Illinois Workers During Periods of Excessive Unemployment.
Whenever there is a period of excessive unemployment in Illinois, which is defined herein as any month immediately following two consecutive calendar months during which the level of unemployment in the State of Illinois has exceeded five percent as measured by the United States Bureau of Labor Statistics in its monthly publication of employment and unemployment figures, the Contractor shall employ only Illinois laborers. "Illinois laborer" means any person who has resided in Illinois for at least 30 days and intends to become or remain an Illinois resident.

Other laborers may be used when Illinois laborers as defined herein are not available, or are incapable of performing the particular type of work involved, if so certified by the Contractor and approved by the Engineer. The Contractor may place no more than three of his regularly employed non-resident executive and technical experts, who do not qualify as Illinois laborers, to do work encompassed by this Contract during a period of excessive unemployment.

This provision applies to all labor, whether skilled, semi-skilled or unskilled, whether manual or non-manual.

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